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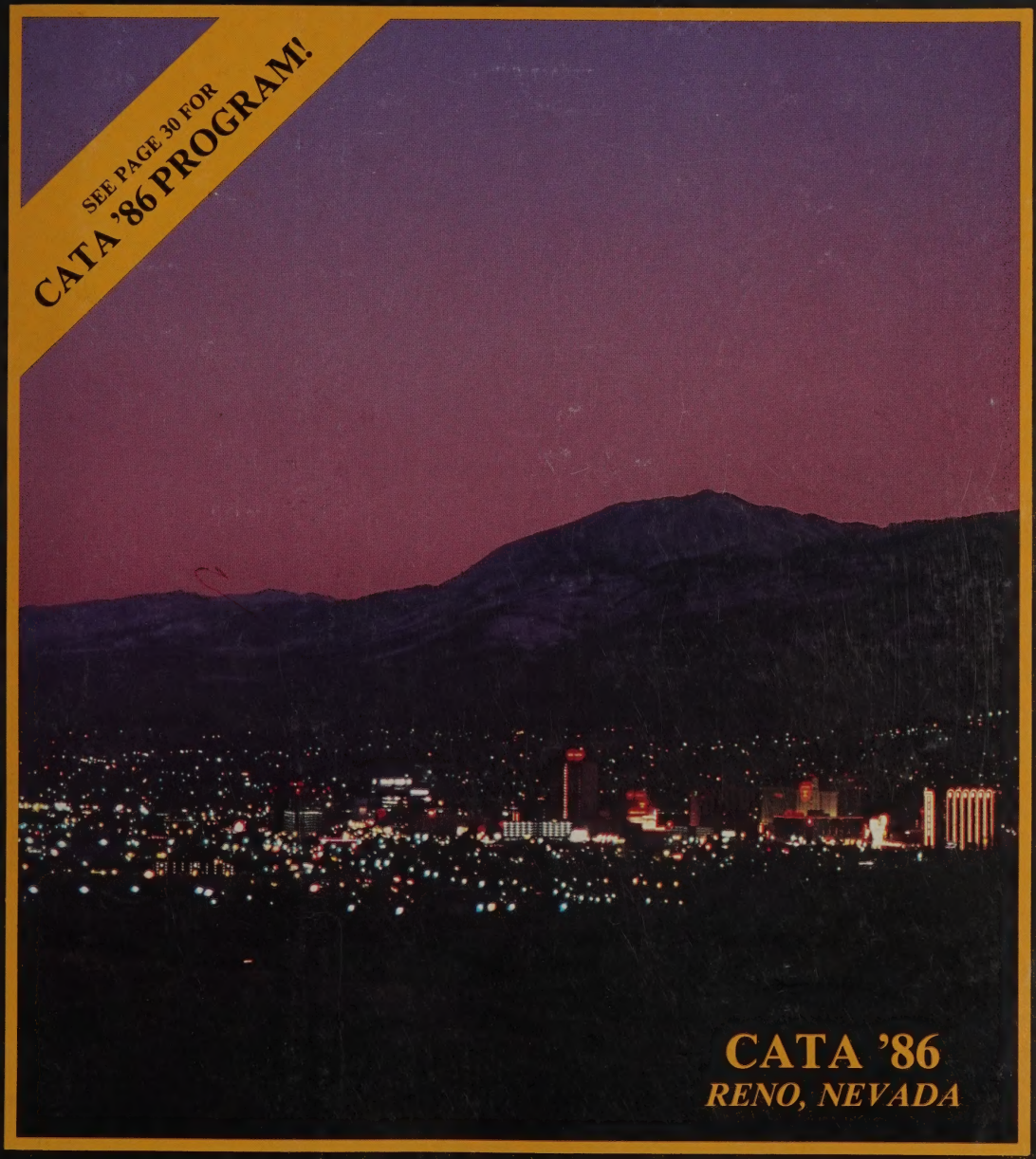

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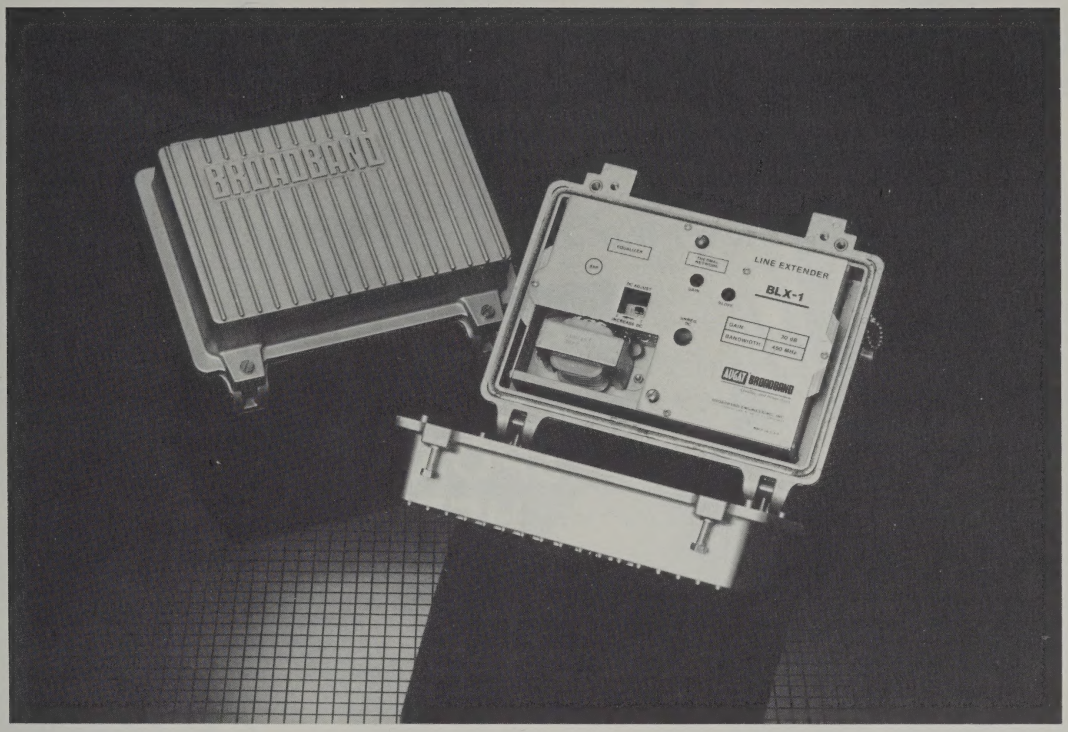

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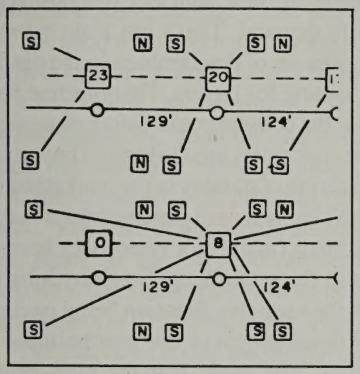
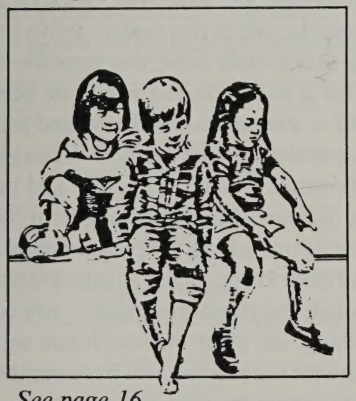
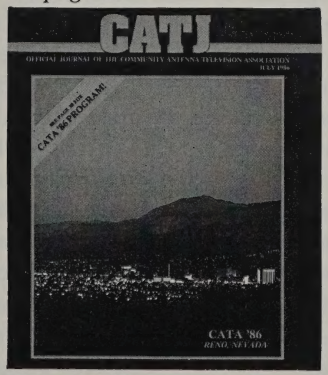


See page 6



See page 16



See page 30

4 CATA-TORIAL — *CATA Chairman of the Board, Carl Schmauder, describes* **A SAD DAY FOR AMERICA**

6 OFF PREMISES ADDRESSABILITY SYSTEM DESIGN AND OPERATIONAL CONSIDERATIONS — *Joseph Preschutti, AM Cable TV Industries*

16 A UNIQUE SCREENING PROGRAM TO PREVENT MISSING CHILDREN — *Gulfstream Cablevision in Florida initiated this tremendous public service effort for their community and shared it with CATJ*

18 WASHINGTON UPDATE — *Testimony by Stephen R. Effros, CATA President, before the House SubCommittee on Telecommunications, Consumer Protection, is presented this month.*

26 PROGRAMMING NOTES

29 CALENDAR OF EVENTS

30 CATA '86 PROGRAM AND SCHEDULE OF SESSIONS

32 FCC RECORD KEEPING INFORMATION

34 SOMETHING NEW

36 ASSOCIATES SHOWCASE

38 ASSOCIATES ROSTER

40 CLASSIFIED ADS

ABOUT THE COVER

This month's cover features the Reno skyline; the source of this view is the Reno News Bureau and their Chief Photographer Trent Saviers to whom we are most grateful for providing this transparency. The Nevada Sky is most appealing and beautiful, setting the scenario for another great CATA show.

A Sad Day For America?

The recent hearings before the House Telecommunications Subcommittee on the issue of satellite signal scrambling proved, once again, what the power of election-time politics can do. It was the second in a series of hearings on the subject of scrambling, and this one proved no more enlightening than the first. It would appear we will be subjected to at least one more of these spectacles — this one on the Senate side, before the November elections. After that, we would guess, the subject will die a quick death. As it should.

What's going on here? Well, it seems that a lot of Congressmen are getting pressure from a small but vocal group of constituents, primarily in rural areas, who either want something for nothing or want it at a special rate. They have gotten used to that you know, what with the government footing the bill for special electric rates and the rest of us paying for special phone rates — at least until recently. What they want now is for the rest of us to pay for their entertainment too, by having a special marketing system or government controls to assure that the cost of, say, HBO or Showtime does not reach "market" potential. I'm not going to go into all of that here. The complete text of the testimony of CATA's President, Steve Effros, is included in this issue of the CATA Newsletter. You can see our point of view for yourself.

The problem with that prepared testimony, however, is that Steve never really got a chance to give it. The hearings started out with a series of statements by members of the Subcommittee, some of which were so "off the wall" in terms of the facts surrounding scrambling, that Steve threw away the prepared material, which had focused on the "video terrorism" that the Subcommittee had asked him to address, and waded, instead, right into the debate at hand. Unfortunately, as is usually the case in highly emotional hearings like this, the members of the subcommittee who clearly knew the least, but complained the most, were also the ones that left right after giving their statements for the benefit of the home-town crowd. So they never got to hear the answers to their complaints either! I want to quickly run down some of them so at least the record can be clarified a little bit.

- A statement was made that HBO and other programmers were "premature" in scrambling. This is silly. Congress endorsed the concept of scrambling in 1984. Indeed it said to the cable programmers that scrambling was the only way to protect their product. How long should we wait? Folks were not supposed to be taking the signals in the first place! Presumably the complaint that HBO was premature came from the idea that there are not sufficient descramblers available to satisfy demand. That's just plain wrong too. There are thousands of descramblers in the distribution pipeline waiting for buyers. That pipeline has to start working at the consumer end before more will be built. And the consumers aren't going to buy until there is some indication of stability in the marketplace. That, in turn, won't happen until Congress stops making noises that intimate (mainly for voters back home) that they may stop the scrambling! So if anything is "premature" it is the excessive attention being paid to the early market development of this new business.

- An accusation was made that the rates being charged rural Americans are "excessive" based on an understanding that the rate is two dollars above that national average that a cable subscriber pays for the same service. This is incorrect. The retail rate being charged for HBO — even at its non-discounted price of $12.95 is close to the national average. When you consider that Showtime is two dollars less, and that both services are discounted for either long-term contracts or by cable agents selling the programming at lower prices (and close to one-half of all sales are now not directly through the program supplier), you can see that, if anything, the price that the home earth terminal user pays for the product will be lower than the national average paid by cable subscribers.

- The epitome of "cable bashing" came from our friend, Rep. Billy Tauzin — who has made a name for himself as the Congressman who is most singularly dissatisfied with any efforts anybody in the cable industry makes to solve the problems in this new marketplace. His latest target: MA/COM. His complaint: That folks who want to watch two different scrambled programs from their home earth terminal at the same time must buy two decoders to do so! He doesn't seem to complain that they have to have two television sets, or two receivers — but when it comes to the scrambling issue, he suggests that MA/COM has designed

its entire marketing system to discriminate against these poor folks by "forcing" them to buy two descramblers and thereby line the manufacturers pocket!

This is downright ludicrous. MA/COM, by the way, has informed us that if there were a TVRO receiver made that had two rf outputs of different channels, they would consider designing a descrambler box that would accommodate both in one unit. But no such animal exists. It is just a created, fanciful, conspiratorial "problem" dreamed up for the sole purpose of complaining! Cable bashing at its lowest.

The good news about the hearing is this: there seems to be little, if any serious thought being given any more to a scrambling "moratorium". The original sponsor of that legislative "solution" did not even show up at these hearings. The House members, at least, realize that such a move would probably do more harm than good. The folks in the Senate are just warming up to the issue, so they are not as well informed yet. Anyway, there also appears to be little enthusiasm for rate control in the House, either. That's the good news.

The bad news is that the main focus is on forcing a "third party" distribution plan on the industry. The theory here is that cable programmers and cable operators have a vested interest in protecting profit margins, and if a "third party" programmer is forced into the picture there will be lots of price competition which will result in lower prices to the public. The problem with this theory, however, is that it neglects to take into account all the money and effort we have expended to create the product. It assumes that the product just sprang, full grown, from the ground and that it is, therefore, to be treated as a "commodity" for the purpose of price competition. That is simply not so.

We have one heck of a lot of financial and "sweat" equity invested in the creation and nurturing of cable programming. We have a right to get a return on the equity before Congress or anyone else comes along and starts interfering with normal market development! If they really do interfere in that way it will create an extremely dangerous precedent for any other American business start-up. It will mean that the efforts made to start a business, to create a brand name, to establish an identity in the marketplace will not be considered of any value by the government, which will negate any value in such effort once the product is successful. That could well end the incentive in this country to be creative, to start new ventures — to expend that "sweat equity" I was talking about. That would truly be a sad day for America. □

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OFF-PREMISES ADDRESSABILITY SYSTEM DESIGN & OPERATIONAL CONSIDERATIONS

Joseph P. Preschutti
AM Cable TV Industries, Inc.
E-Com Products Division

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INTRODUCTION

Off premises jammer systems (including the Tier Guard System) have been receiving higher interest due to intangible benefits associated with improved customer satisfaction the use of VCRs, multi-channel sound, additional outlets for extra TVs and FM radio, etc.

This paper describes system design concepts required to deploy the off-premises Tier Guard System in a variety of CATV systems. Differences from traditional tapped feeder concepts are highlighted.

In addition,financial models for initial installation costs and operational benefits are provided, showing the Tier Guard System to be a cost-effective design concept in a variety of systems including urban, suburban, rural, new build, rebuild and upgrade situations.

SYSTEM DESIGN

A cost-effective system design which takes full advantage of the characteristics of off-premises addressable equipment must take into consideration design rules and concepts which are different from the standard tapped-feeder concepts used in a traditional broadband system. Several categories of inherent differences are indicated, namely the clustering or grouping of outlets to take advantage of shared electronics, the resultant longer drops which are produced by this type of cluster design, powering methods and costs, and most importantly, limited deployment of active electronics.

TAPPING

The purpose of a traditional broadband system design approach utilizing low-cost directional taps is to, at minimum, provide an outlet for every potential subscriber. The use of standard directional tapping devices in configurations having two, four and eight outlets results in deployment of 115-125% of outlets as a percentage of homes passed. This is a naturally cost-effective system design since the cost per port for a standard directional tap is very low.

The cost **per port** of an off-premises addressable system such as the Tier Guard System is quite low compared to an addressable converter or an off-premises addressable tuner. Consider, however, a hypthetical system design that treats the Tier Guard tap as a standard tap in a system that, for example, has 60% penetration and 120% deployment of outlets. This would result in deployment of two outlets for each subscriber and would double the cost of the Tier Guard implementation. This is clearly an undesirable situation.

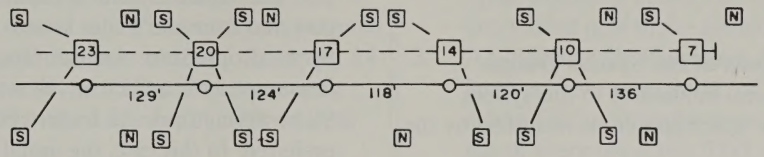
A system design technique that achieves 70% to 80% utiliztion of deployed ports was devised to overcome this situation. An explanation of the concepts underlying this system design technique along with the advantages and disadvantages follows.

TAPPING EXAMPLE

Figure 1 shows a sample design area with 21 homes passed, 14 subscribers, and six four-port taps allocated.

Figure 2 shows the same area with the Tier Guard off-premises system deployed with the following results:

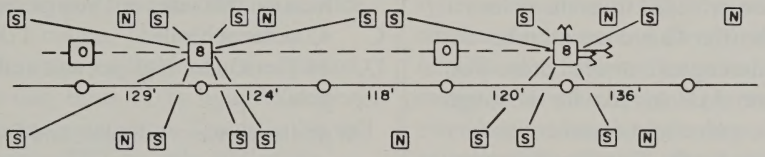
1. End of feeder is reduced by one span.
2. Two active locations are utilized instead of six.
3. Sixteen ports are allocated to serve fourteen subscribers.
4. Two blank plate (TGT-0) locations are available for further expansion.



S SUBSCRIBING HOUSEHOLD
N NON-SUBSCRIBING HOUSEHOLD

PORTS ALLOCATED = 24
HOMES PASSED = 21
SUBSCRIBERS = 14

FIGURE 1
TRADITIONAL TAPPED FEEDER



S SUBSCRIBING HOUSEHOLD
N NON-SUBSCRIBING HOUSEHOLD

ACTIVE PORTS ALLOCATED = 16
POSSIBLE PORT ALLOCATIONS = 32
HOMES PASSED = 21
SUBSCRIBERS = 14

FIGURE 2
TIER GUARD TAP FEEDER DESIGN

ADVANTAGES OF THE SYSTEM DESIGN

Several advantages are presented by this system design concept.

1. **Efficient Port Usage**
   Deployment of active electronics and efficiency of active port usage is optimized, reducing installation costs.
2. **Increased System Reliability**
   The shared electronics have reduced the number of active components in the system and reduced the number of serially-connected devices in the feeder.
3. **Lower Tap Losses**
   This particular example shows a loss of 1.2dB per TGT or 4.8 dB passive loss. The traditonal passive losses in figure one totals 8.6 dB without the terminating 7 tap! This increases the efficiency of line extender use in the system
4. **Lower Cable-Bearing Strand Footage**
   The result of reducing each and every end of feeder in the system by one span has a dramatic effect on reducing cable-bearing strand footage, reducing installation costs.
5. **Lower Passive Installation Costs, Fewer Connectors**
   As demonstrated by the examples presented in Figures 1 and 2, the traditional design required installation of six passives, one at each pole, while Tier Guard off-premises design required installation of four passives for the same feeder. This results in lower installation costs ►

for the passives themselves and use of fewer connectors.

Limitations of the System Design

There are several limitations to this system design technique which should be identified by the system designer.

1. **Longer Drops Required**
   In order to take advantage of the shared electronics of the Tier Guard System, the subscribers must be served from more concentrated tap points. As can be seen in the example, instead of providing services for two, three or four subscribers from each of six poles, active TGTs are deployed on a limited basis at only two locations. Service that would traditionally be provided from the poles adjacent to the Tier Guard tap must be handled by running an extended drop. The installation and materials cost for the longer drops must be added to the initial system installation cost for the Tier Guard System.
2. **Added Power Supply Costs**
   The Tier Guard System is capable of being powered from the feeder system or, optionally, by the drops. Since the Tier Guard tap power consumption is quite low (14 watts for TGT-8), powering from the feeder system is preferred. In this case, the initial installation costs will be increased by the added costs of power supply locations. A rough estimate for the number of additonal power supplies required when using the Tier Guard System can be calculated based on the following assumptions for a moderately dense system of about 100 subscribers per mile:

A. 70% efficiency of power supply use.
B. 900 watts available from the power supply location (60 volts at 15 amperes).
C. 42 poles per mile.
D. 14 Tier Guard taps per mile (one every third pole).

With the above conditions, and further assuming that the powering system will be current-

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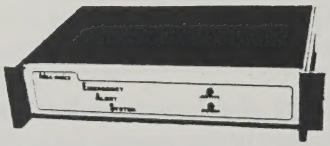

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limited, not voltage-limited, 640 watts of power is available to power the Tier Guard system. At 14 watts per Tier Guard tap, 45 taps may be powered from a single power supply location. Assuming 14 active taps per mile, an additonal power supply will be reguired every 3.2 miles of cable-bearing strand plant.

For those systems employing standby power, the cost of added power supplies might be reduced by using standby power on the trunk with traditional supplies in the feeder area.

Summary of Tier Guard System Design Rules

1. Deploy TGT-0s throughout the system, assuming each tap will be capable of providing an outlet for eight subscribers. This will typically result in 50-65% of the poles in the system having the **capability** to provide active TGT outlets. This will result in potential outlets for 100% of homes passed.
2. Populate only those TGTs reguired to service the projected penetration. Typically this will require active TGTs at only 50% of the locations indicated in Item 1 above, or, in other words, an active Tier Guard tap at every third pole in the system.
3. An objective for the system designer should be to achieve a minimum of 70% efficiency in active TGT port deployment. That is, seven out of every ten active TGT ports deployed should be used.

Implementations in Sparse Areas

The specified output level of the TGT is +15 dBmV at the highest frequency. This limits long drop lengths using RG-6 to approximately 300 feet. If the designer places TGT-8s optimally so that full reach is achieved in both direction along the feeder line, the minimum number of TGTs that can be deployed is about 10 units per mile. In systems which have only 30 or so subs per mile, efficient deployment of the system will rely on implementing system design techniques that minimize the number of TGTs required by extending the length of the drop. Two methods have been investigated. These are: ►

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2. Use of 0.412" backfeed cable to lower the insertion loss of the drops.

Both of these alterations have been selected by designers of off-premises systems using TGT.

Implementation in Upgrade Situations

The replacement, on a one-for-one basis of existing taps with either a TGT-0 or an active TGT is a straightfoward matter. The option to relocate line extenders remains with the system designer. In a system that is already over-extended (three extenders or more in series), it is possible to take advantage of TGT to reduce the number of extenders, increases reliability, and reduce maintenance costs. On the other hand, the designer may choose to leave intact existing line extender locations.

Upgrading with TGT theoretically requires extending the drop length of approximately 2/3 of existing drops to cluster existing subs for more cost-effective deployment.

CALCULATING THE INSTALLATION COSTS OF AN OFF-PREMISES TGT SYSTEM

In projecting the cost to deploy the Tier Guard System, the designer must consider several parameters. New systems, rebuilds and upgrades each have requirements which will affect system design, installation and deployment tactics. This section attempts to model the new-build situation and presents the variables that change the model for rebuild and upgrade scenarios.

New Build TGT Installation Cost Parameters

In order to accurately predict the installation cost of the Tier Guard System in a new build, it is necessary to quantify the following parameters:

1) Homes passed per mile
2) Projected penetration
3) Number of TGT-0s deployed
4) Number and value of active TGTs deployed (TGT-4, TGT-6, TGT-8)
5) TGT-0 installation costs
6) Active TGT installation and activation costs
7) Added costs of longer drops
8) Added power supply costs
9) Number of "plain vanilla" converters used taking into account cable ready sets

New Build Addressable Set-Top Installation Cost Parameters

In order to compare the installation costs of the Tier Guard System to a set-top addressable system, the following additional factors need to be quantified:

1) Lower distribution system costs with TGT due to lower cable bearing strand footage, fewer taps, fewer extenders, fewer connectors, etc.
2) Number of addressable set-top converters used, taking into account how basic subs are provided serrvice, additional outlet requirements and inventories, etc.
3) Use of "plain vanilla"converters
4) Added Drop Costs—Although a significant number (about 1/3) of the total drops in the system are standard length, about 2/3 of the total will be longer than normal. Some of these longer drops will require a complete span to the adjacent pole location (about 50%) while the remainder can be handled by half-span extension in drop length. Both material costs and added labor costs must be considered.
5) Combined distribution plant costs—The effect of the savings produced by fewer taps, lower strand footage, lower passive installation costs plus cost adders on the distribution plant including additional power supply costs are detailed for a specific design example at the end of this paper.

OPERATIONAL BENEFITS

Off-premises equipment should be deployed in many systems for reasons which vary in

importance, depending on the unique characteristics of the individual system. The primary operational cost benefits which may be calculated directly from data available from operations are:

1) Reduction in theft of service losses
2) Reduction in hardware losses
3) Reduction in churn losses
4) Reduction in equipment repair costs.

In some systems the payback associated with only one of these benefits will justify the off-premises approach. In most systems a combination of these items will produce significant operational improvements which should be analyzed when a new build or rebuild of a system is being planned. A payback model for each of these benefits is presented in the following sections.

Theft-of-Service

One of the valuable benefits of an off-premises system is the increased revenues which can be generated by eliminating theft-of-service and converting non-paying subscribers to paying subscribers.

The following model calculates theft-of-service benefits on a per-subscriber basis using the initial subscriber count before service theft is eliminated as a basis. The following parameters are used as required data for the calculation:

Parameter	Equation Variable
Homes Passed per mile	HP
Penetration,%	PEN
Illegal Connections, % of HP	ILL
Illegals caught, % of ILL	CAUGHT
Illegals converted, % of ILL	CONV
Average takeout/sub/month,$	TAKEOUT

The number of converted subscribers per mile is calculated as follows:

(NEW)=(HP)x(ILL/100)x(CAUGHT/100)x(CONV/100) (1)
= new subs/mile

The additional revenue per mile per year generated (NEW $) is calculated as follows:

(NEW $) = (NEW)x(TAKEOUT)x12 (2)
=$Mile/year

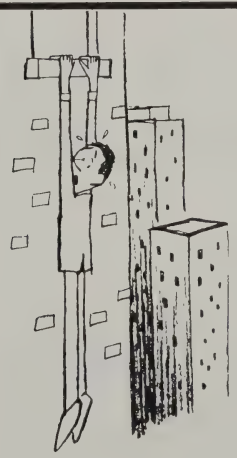
This additional revenue (based on original subscriber count) is as follows:

$/sub = (NEW $)/(HP)x(PEN/100) (3)

Theft of Service Example #1 (High Theft)

The following example presents an actual system which has a high theft-of-service problem, with the following parameters,

PEN = 17% existing subscriber penetration
ILL = 30% illegal connections
CAUGHT = 100%
CONV = 50%
TAKEOUT = $20 average per subscriber per month



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CATV 6.0 is a Billing/ Accounts Receivable System designed specifically for Cable TV operators for use on the economical TRS-80® Model 12 and multiuser Tandy 6000 under TRS-Xenix®. This system maintains subscriber accounts faster, with efficient payment verification and account updating, and provides timely management reports. All in a language YOU understand.

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Justification for an off-premises TGT system installation is almost completely based on projected cash from improving penetration from 17% to 32% as follows:

(NEW)= (220)x(30/100)x(100/100)x(50/100)
=33 subs per mile

(NEW) =33 x (20) x 12 =$7920/mile

$/sub = $211.76 per existing sub per year!

Theft-of-Service Example #2 (Average Theft)

The previous example was an extreme (but real) situation in a problem system. An "average" urban system is presented below with the following numbers:

HP	=	220 homes/mile
PEN	=	50% of HP
ILL	=	10% of HP
CAUGHT	=	100% of illegals
CONV	=	25% of those caught
TAKEOUT	=	$25/month

In the case,

(NEW)	=	5.5 new subs/mile
(NEW $)	=	$1,650.00 per mile
$/Sub	=	$12.50 per existing sub per year

In this "average" case, the improvement in revenue due to an off-premises system is still substantial, but one must also look at other areas for additional operational savings in order to justify deployment.

Reduction in Hardware Losses

The reduction in hardware losses when comparing an off-premises system to a set-top addressable system is a function of two elements:

1) The cost of in-home electronics is substantially reduced by the difference in cost between a "plain vanilla" converter and an addressable converter ($40 versus $100).

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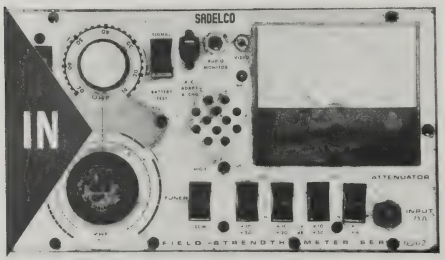
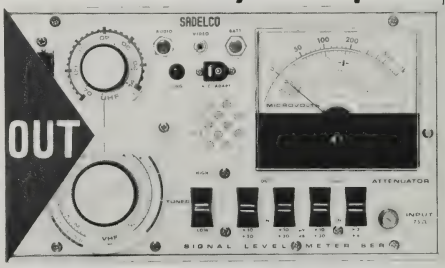


REPAIR HOT-LINE 201 569-3323



■ 10 work-days, in-out service

■ Repair cost-estimate on request

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General Representative for Europe: Catec AG, Habsburgerstr 22, 6003 Luzern. Tel. 041/573636 Telex: 041/572796

2) Converter deposits represent a much larger proportion of total exposed cost. For example, with a $25 deposit, the exposure to a converter theft would be as follows:

Plain Vanilla = $40 - $25 = $15
Addressable = $90 - $25 = $65

In other words, with a reasonable deposit on in-home electronics, the exposure to theft of equipment with off-premises equipment can be a fraction of the exposure with an addressable converter system.

Assuming a 15% hardware loss for theft-of-services, the following calculations can be made for the "average" urban system, taking into account an additional converter needed for additional outlets and no converter needed for a TGT system with a cable-ready set.

HP = 220 homes/mile
PEN = 60% of HP
LOSSES = 15% of equipment annually
DEP = $25 deposit on converters
% ADD = 20% additional outlets
% Cable-ready = 30% cable-ready sets

Hardware Loss, Set-top Addressable

Converters lost per mile = (HP) x (PEN/100) x (LOSSES/100) x (1+ ADD/100)
= (220) x (.6) x (.15) x (1.2)
= 23.76 lost converters/mile/year
$ lost/mile = $23.76 x ($90-$25)
= $1,544.40 per mile per year
or, on a subscriber basis
$ lost/sub/year = $11.70/sub/year

Hardware Loss, TGT

$Converters lost/mile = (HP)x(PEN/100) x (Losses/100) x (1+ ADD/100) x (1-cable loss/100)
= 16.63 lost plain converters/mile/year
$ Lost/mile/year
= 16.63 x ($40 - $25)
= $ 249.48
$lost/sub = $1.89/sub/year.

Hardware Loss Savings

This represents an operational savings of $11.70 - $1.89 = $9.81 per sub per year!

CHURN ANALYSIS

Many systems have unusually high churn due to the nature of the community. Classic examples include resort communities, university communities, and the like. The off-premises Tier Guard approach has been, so far, universally advantages in each of these types of communites analyzed to date.

Several transactions need to be identified in analyzing what this paper defines as churn. These are:

1) Disconnects
2) New Connects
3) Reconnects
4) Upconverts - to add a pay channel
5) Downconverts - to delete a pay channel

When comparing the TGT system to addressable set-top systems, the primary benefits of the TGT system are obtained by eliminating truck rolls for disconnects. When considering the TGT system instead of a trapped system in high churn environments, the reduction in up-and-down-converts along with the disconnects must be determined.

TGT vs Set-top Addressable Churn Cost Comparison

One of the key system operational strategies that should be employed in reducing the costs of churn with the TGT system is elimination of the need to make a service call to collect the converter. Since homes with cable-ready sets require no converter (the penetration of cable-ready sets will increase continuously in the future), this type of subscriber naturally does not require a truck roll. Since a "plain vanilla" converter is used in homes without cable-ready sets, it is assumed that a modest deposit will provide adequate incentive for an effective converter return policy. ►

Neither **Up** or **Down** converts of pay channels require truck rolls with either a TGT or an adressable set-top system. Also, quite naturally, a New Connect requires a truck roll with both systems. The key to a comparison in the operational costs of these two types of systems relies on comparing disconnect and reconnect losses.

The data required to calculate the operational benefits in this case are:

Parameter	Equation Variable
Homes passed per mile	HP
Penetration, %	PEN
Disconnects, % of subs	DISC
Truck Roll Cost, $	Roll

Disconnect Costs

Since the disconnected subscriber is generally not a cooperative one, it is assumed that an average of 1.9 truck rolls/disconnect is required to retrieve the set-top addressable box, while no truck roll is assumed for the TGT system.

Example

The following example of a typical urban system presented:

HP = 220 homes/mile
PEN = 60% of H.P.
DISC = 20% of subscribers
ROLL = $25

TGT Churn Benefit (Moderate Churn)

The calculation for the churn benefit on a per-subscriber basis of the TGT system is as follows:

Churn Benefit = (HP x PEN/100) x (DISC/100 x 1.9) x (ROLL)/(HP x PEN/100)
+(DISC/100) x 1.9 x (ROLL)

The first conclusion is that this churn benefit on a per-subscriber basis is independent of houses passed and penetration. The value of this benefit in this example (20% disconnect rate) is:

Churn Benefit= (.2) x 1.9x $25 = $9.50/sub/year

High Churn Example

Systems that experience a high churn rate (100%) with the above truck roll cost will experience the following operational benefit with TGT versus an addressable set-top system:

Churn Benefit = (1.0) x 1.9 x 25
= $47.50/sub/year

REDUCTION IN EQUIPMENT REPAIR AND MAINTENANCE COSTS

The effect of the ideal TGT system on repair and maintenance costs is dramatic. The number of active electronics in a TGT system with no subscriber equipment is less than 20% of the electronics needed to deploy a set-top addressable system. Assuming that the cost to repair and maintain TGT hardware is 50% more than that for set-top addressable converters, the net result is still 30% of a set-top system or a 70% savings in maintenance and repair costs. An example of this scenario follows.

Ideal Repair & Maintenance Cost Savings

The following data is required in addition to previous data:

Parameter	Equation Variable
Addressable set-top failure rate, %	ADDFAIL
Addressable set-top repair cost, $	ADD$REP
Truck Roll Cost, $	ROLL
TGT failure rate, %	TGTFAIL
TGT repair cost, $	TGT$REP
Additional Outlets, %	ADD

Repair Benefit Value Calculation

Addressable set-top repair $=
(HPxPEN/100)(1+ADD/100)(ADDFAIL/100)
(ADD$REP+ROLL)/(HP x PEN/100)

Again, the penetration drops out on a per subscriber calcultion, leaving:

Adressable set-top repair $=
(1 + ADD/100)(ADDFAIL/100)
(ADD$REP+ROLL)

Example: The following example is presented:

ADD = 20% of subscribers with additional outlets
ADDFAIL = 10% failure per year
ADD$REP = $20
ROLL = $25

Addressable set-top repair $ = $5.40/sub/year

The TGT system repair costs are as follows: assuming 80% efficiency of TGT outlets and average use of TGT-6s in the system design:

TGT FAIL = 10%

TGT $REP = $30

TGT Repair $= **TGTFAIL/100)(TGT$REP+ROLL)** (.8x6)

= $1.15/sub/year

This represents a substantial operational savings per subscriber each year. However, this also represents a boundary value condition in the future when most sets are cable-ready. At this point in time, assuming 20% or so existing penetration of cable-ready sets, the repair costs tend to be equal in both systems, because of the need to maintain and repair the "plain vanilla" convertors used in the TGT system. Depending upon specific system parameters, the TGT advantage is approximately $1.00/sub/year with a projected increase towards $4.05/sub/year as cable-ready sets increase in numbers.

EXAMPLE SUMMARY ANALYSIS

The following example is a computer program printout of a Tier Guard versus addressable set-top cost comparison for an urban system. The first "page" of the printout lists the various assumptions. The second page indicates initial system design considerations. In this section, the total effect on the distribution plant is added on one line. This includes reduction in strand footage, line extenders, taps, connectors, and increased power supply costs. Cost of longer drops is included as a seperate item.

This particular situation indicates a slightly higher installation cost with a very quick payback favoring the off-premises approach.

SUMMARY AND CONCLUSIONS

Off-premises systems such as the Tier Guard Tap can be effectively deployed in a variety of systems. Installation costs will vary depending upon projected penetration and subscriber count. Design techniques somewhat different from traditional tapped-feeder concepts need to be employed for cost-effective deployment of the shared electronics.

Installation costs are comparable to addressable set-top systems. Operational benefits result in very short paybacks on investment compared to addressable set-top systems. Benefits vary from system to system and a thorough analysis is justified on any system design opportunity, whether urban, suburban or rural, new build, rebuild or upgrade.

References

1. *Dickinson, Robert V.C., "Jamming Techniques for Off-Premises Addressability," NCTA Technical Papers, June 1983.*

2. Dickinson, Robert V.C., "Protection of Premium Television Services by Off-Premises Interfering Signal Techniques," CATCOM Conference Technical Papers, November 1984.

FINANCIAL SUMMARY

TIER GUARD vs ADDRESSABLE SET-TOP

	Costs per Subscriber ADDR	TGT	
Initial Costs, $	132.00	140.29	
Cost Difference			8.29
Annual Savings, $	0.00	38.07	
PAY BACK, TGT vs ADDRESSABLE SET-TOP, Months			2.61
TGT COST ADVANTAGE	FIRST YEAR		29.78
	after FIVE YEARS		182.07

Unique Program To Prevent Missing Children Initiated By Cable System In Florida

In an age when almost everything comes with a price tag attached to it, the information below is heart-warming in that it tells of a public service offered by the Gulfstream Cablevision, Dunedin, Florida, to assist in the plight of young people who either will be abducted or run away from their homes. Thousands of children vanish yearly with little or no photographic records from which to identify the child and assist in locating them.

This unique service was brought to our attention by Mark Sena, Communications Equity Associates, in Tampa, Florida, and the information describes the free video-taping and finger-printing of children in their franchise area. The videotapes are stored at the local police department and are used, if the unfortunate situation arises, to find missing children.

We thought the program was very worthwhile and something that should be given attention for CATJ readers. Responses from the Florida state press, as well as the local Dunedin media, have run enthusiastic with letters being received from the Florida congressional delegation.

It's a Go . . . for Gulfstream's Missing Children's Campaign

Details are finalized for Gulfstream's Cablevision's Public Service campaign to help prevent and locate missing children. Peter Jones, President of Gulfstream said, "the campaign idea started during this past Christmas season when Gulfstream employees were talking about ways to improve the single dimension still photos of missing children being shown on television. From these Christmas thoughts came the question ... If your child was missing ... could you describe their laugh ... their walk ... their speech patterns ... their mannerisms? We could at Gulfstream, came the reply, if we started a campaign to video tape children." Thus came the beginnings of Gulfstream Cable-

vision's prevent Missing Children's Campaign being done in cooperation with the Police Department and city officials to be first tested in Pinellas County's Dunedin area. Here are the details:

WHO: You can have children of your choice video taped ... and thumb printed if you wish ... by Gulfstream Cablevision. No age limit. It's free of charge and you don't even have to be a Gulfstream customer. The children for this test campaign should be from Dunedin **or** related to **or** friends of a Dunedin resident.

WHEN/WHERE: Video taping will take place at the Gulfstream Studio at 1060 Scotsdale Blvd., Dunedin, and will continue every Saturday from 9AM to 5PM until the community need is satisfied. About 15 children can be taped each hour. Call 736-1436 for a scheduled date and time. You must be on the scheduled list ... no walk-in's please; it's unfair to those who have scheduled hours. The 3/4" commercial size video tapes will be kept by the Dunedin Police Department.

WHAT TO DO: First pick up a Missing Children Information and Registration card from any Gulfstream Office, the Dunedin Police Department or Dunedin Chamber of Commerce office. Second — call 736-1436 to schedule a Saturday time. During the video taping you might want to appear on camera with your child. This is fine ... it may make the child more comfortable. They will be asked to walk, sit, tell their name, age, laugh if possible, and we strongly suggest you encourage your child to speak words or sentences that emphasize their own particular speech patterns and mannerisms. That is most important. Speech patterns and mannerisms will not change as quickly as a child's appearance.

If the video taping proves popular in the Pinellas County test area Gulfstream will expand it to Tarpon Springs, Safety Harbor, Oldsmar, New Port Richey, Port Richey and Pasco County.

For further information contact: Glenn Kovar, Director of Public Affairs, Gulfstream Cablevision, Office: 736-3681, Home: 443-3053. □

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- Weather Scan 3.9 meter high performance, fiberglass earth station
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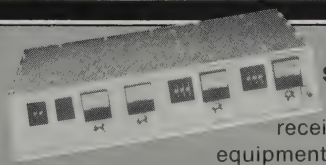

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TESTIMONY

. . . of Stephen R. Effros, President, The Community Antenna Television Association (CATA) Before the House Subcommittee on Telecommunications, Consumer Protection and Finance June 12, 1986

Mr. Chairman, members of the subcommittee, I am Steve Effros, President of the Community Antenna Television Association (CATA). CATA petitioned the Federal Communications Commission ten years ago to legalize the use of small aperature earth terminals in the United States. We won the battle, and have been on the forefront of the evolution of the use of satellite communciations ever since.

But now we see a growing problem. One that could threaten the very basis of the satellite communications structure we helped create. It seems there are those who have chosen to force a revolution in the use of satellite technology rather than allow a natural evolution. They have, in essence, taken up arms — they have decided to fight. And not by conventional means, I might add, but through terrorism. That is what we are experiencing today — video terrorism. It has affected consumers, particularly in rural areas who got sold a "bill of goods" by fly-by-night earth terminal salesmen who convinced them that anything that came on to their property through the air, was, or should be free — never mind that most of our military communciations travel those very same airwaves.

The terrorism has affected the programmers and the manufacturers of satellite equipment. Those who would dare try to protect private property have been rewarded with obscene phone calls, bomb threats, and, yes, even threats on their lives.

And now we have graduated to a new level in the battle. The very communications structure itself is being threatened. "Captain Midnight" and his friends have already shown that they not only can, but are willing to interfere with the entire satellite communcations system — and, coincidentally, threaten the very existence of the system by doing so, in the quest for special status when it comes to the use of satellite techonlogy.

What are they after? They want guaranteed access to the property of others. Not only that, they do not want to pay based on marketplace rates. They want a Socialist styled "government rate" set just for them - of course the rhetoric calls that a "fair rate". But one would have to ask, fair for whom? Is it fair for all the cable subscribers who would have to pick up the difference? Is it fair for the manufacturers who they say should not have the right to recover the research and development costs of creating the scrambling system

that would not have been needed but for the total lack of regard for the private property of others? No, what they want — what they are demanding — what they are willing to terrorize for, is government sponsored favoritism. And this small, vocal, special interest group has chosen just the right time to engage in their terrorist activities. Just before an election. So the pressure is now on this body. Will it cave in to terrorism? We certainly hope not. We urge you not to let terrorism dictate public policy.

We are here to discuss with you the issues — and answer any questions you may have. I do not think it is necessary to go into the entire history of this dispute with you —you all know it already. I would, however, like to address a few specific points before we get to questions.

There are presently on the books laws that allow the interception of cable satellite programming only by home earth terminal users if, and only if, that programming is not marketed or encrypted by the programmer. If either of those two steps is taken then permission must first be obtained by the potential user before viewing the product. It was Congress and the Earth Terminal industry that pressed cable programmers to scramble their signals. They told the programmers that scrambling was the only way to protect their private property. Now, in a somewhat ironic switch, there are some in Congress who are calling for a moratorium on scrambling because it somehow is unfair to the "consumer". I would like to point out that one who, with abandon, takes signals from the satellite without paying for them is not, the way we normally use that term, a "consumer". How is scrambling, and the free marketplace determination of the rates to be charged those who want to view or use the goods and services being made available by satellite unfair? Is it unfair because the buyers of earth terminals were not told by the hardware hawkers that the programming would be protected? That it would not be free? Is the solution, therefore, to make the programming free, or is it to recognize that this Congress and the early participants in the so-called terminal boom of the past two years were trading on limited knowledge, with limited goods, at the expense of the cable programmers? Now we see suggestions that the cable operators and programmers are responsible for all this and that they should be regulated! A marketer of a $2000 unregulated satellite dish is arguing that the $12.95 price for the software to be viewed on that terminal is an "outrageous" price — and the government should step in! The price of the descrambler and the programming is the problem he says, the two lowest cost items necessary for the system. The only ➤

"But now we see a growing problem. One that could threaten the very basis of the satellite communications structure we helped create."

May, 1986

SOLD

SILVERTON CABLE TV CO., INC.

serving Silverton and Mt. Angel, Oregon
has been sold to

FALCON CABLE SYSTEMS CO.

of Pasadena, California

The undersigned represented the seller in this transaction.
This notice appears as a matter of record only.

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result of such potential government actions will be to destroy the usefulness of satellite communications as a viable transmission mechanism for private communications. Cable program distributors may have to turn to alternative technologies, such as fiber optics, which was featured in this week's issue of the National Journal, if Congress declares that the nature and value of private property changes and suddenly becomes either regulated or unprotected when it is transmitted on one particular type of technology — satellites.

We are in somewhat of a fairyland situation as business people when we hear responsible members of Congress echoing the claims of video terrorists in the idea that if entertainment programming is distributed to cable systems over land lines, or even over microwave transmission it is protected against unauthorized use, and there is no consideration of government market and rate control. But if that same transmission is made by satellite, suddenly the government is going to intervene in the market and control all aspects of distribution. That type of logic can have only one result: the use of satellite technology will be a short-term, interim use until other transmission modes, such as fiber optics and digital encryption of our signals is developed so that private property can once again be controlled by the marketplace rather than the government.

"There are some in Congress who are calling for a moratorium on scrambling because it somehow is unfair to the 'consumer'."

fiber optics and digital encryption of our signals is developed so that private property can once again be controlled by the marketplace rather than the government.

Of course the threat of massive government intervention is not the only moving force being used by those who seem to insist that they have special rights to all satellite signals. They also hope to use technology. The terrorists are actively engaged in efforts to break the scrambling of satellite signals which was mandated by this Congress. There is continuing promotion of the idea that bootleg "black boxes" will be available to "break" the codes of scrambling. Here is one example of the terrorism that I am talking about. An entire manual, allegedly showing how to "break" the scrambling. This book has been promoted by self-styled champions of the home earth terminal users on satellite delivered television programs which have also gone on to advocate a boycott of the purchase of actual decoders.

"A marketer of a $2000 unregulated satellite dish is arguing that the $12.95 price for the software to be viewed on that terminal is an 'outrageous' price."

The so-called "black boxes" do

May, 1986

$2,500,000 SENIOR SECURED SERIES C NOTES

have been issued by

GULFSTREAM CABLEVISION OF PINELLAS COUNTY, INC.

serving Dunedin, Oldsmar, Tarpon Springs, Safety Harbor, New Port Richey and parts of Pinellas County, Florida

The undersigned represented the borrower in this transaction. This notice appears as a matter of record only.

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COMMUNICATIONS EQUITY ASSOCIATES

not work. The boycott has not worked. And claims that the actual decoders are not available have likewise been silenced. There are many thousands of decoders in the distribution pipeline today. Over thirteen thousand are already in use by the many home earth terminal users who are not a part of this small cadre of terrorists. And I would like to emphasize here that there are many owners and dealers of home earth terminals who have them for very legitimate reasons, and who bought them with a full understanding that they would have to pay for the product they intercepted. Indeed, those reputable dealers are the ones who will be hurt the most if Congress caves in to the terrorists and creates some sort of moratorium on scrambling. Such an action will simply say that the fly-by-nighters were right, at least for a little while longer, and the reputable dealers were not. That may just be the death knell for this new industry. And that would be a shame.

"There is continuing promotion of the idea that bootleg 'black boxes' will be available to 'break' the codes of the scrambling."

Another example of the terrorism that pervades this whole issue is best demonstrated by this article in Satellite Times. It reports on a meeting complete with false name tags, and secret access attended by a group of alleged expert "hackers" — computer code breakers. They have, according to this article, already gotten together to pool their unique expertise in order to break the scrambling methodology of the cable satellite programmers. These are the very same people who, failing in their efforts to destroy the cable satellite programming industry through technological sabotage, are pounding on your doors, Mr. Chairman, to have you do it for them.

"The cable industry is not in any way opposed to the earth terminal industry. ***We started it.***"

The cable industry is not in any way opposed to the earth terminal industry. We started it. It is an ideal adjunct to cable delivery, particularly in rural areas. All you have to do is read the material we have been printing for the past eight years and you will see that we are far from antagonistic to earth terminal users. What we have significant problems with, however, are those who insist that the C-band satellite system is somehow to be converted into a ►

June, 1986

SOLD

SISTERS CABLE TV CO.

serving Sisters, Oregon
has been sold to

MOUNTAIN CABLE TELEVISION, INC.

of Sisters, Oregon

The undersigned represented the seller in this transaction.
This notice appears as a matter of record only.

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Tampa, FL 33609 813/877-8844

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"public" as opposed to a private system. It was never licensed as such, and to do so now would change the entire nature and integrity of the satellite communications system.

I'd like to show you another example of the nature of the terrorism we now face, and the extreme strain it puts on our fragile satellite communications system. This is a book published by well-known home earth terminal advocates. It explains how to intercept signals from the satellites. But not just HBO, or Showtime, or ESPN — which some members of this body seem to think is OK, because, after all, they are "just" entertainment programs — no, here the interception is of data transmissions — your bank account data, for instance, Mr. Chairman, or your telephone conversations or bills. Indeed this is a manual for anyone who wants to eavesdrop on an entire panoply of communications that routinely traverse the skys. Congress simply plays into the hands of those who would destroy our privacy by even implying that somehow there is an absolute right to the interception of ANY type of programming from the satellite — at whatever price.

"The first mistakes have already been made, and the integrity of the system has already been breached."

But we are passed that stage now. The first mistakes have already been made, and the integrity of the system has already been breached. Congress has declared that theft is OK if it is easy to do. Could you imagine a law that said that it would not be considered theft of a car if the owner accidently left the keys in the ignition? What has happened to our notion of private property? But that is exactly the situation we are in with regard to cable satellite signals — and, if you read this book, you will see we are in the same shape with regard to all other communications too — so scrambling is a must. And the game is on. The terrorists are

When you choose a new head end, get it all together. Triple Crown pre-packaged head ends are the best way to simplify installation and ensure superb performance.

We custom design your head end to meet your needs. Satellite Receivers, Signal Processors, Modulators, Demodulators, and Post Amplifiers are all selected for compatibility, racked, set to specs and tested in our factory. Your savings in on-site technician time and trouble alone makes the Triple Crown choice worthwhile!

When the time comes to get your head end together, give us a call. We have the knack to pre-rack and that's a fact!

TRIPLE CROWN ELECTRONICS

4560 Fieldgate Drive
Mississauga, Ontario L4W 3W6
(416) 629-1111

700 West Hillsboro Blvd.
Deerfield Beach, Florida 33441
(305) 429-0870

seeking ways to either break the scrambling, which we don't think they can do — or to get you to stop it, so they can continue to get a free ride, at least for a while longer.

There are others, however, who acknowledge that scrambling is necessary and that it "legitimizes" the earth terminal industry. We agree. However the next plea is for special welfare rate controls or government mandated market structures. The bottom line is that they want to decide how much they should pay, and they also want the right to compete with the cable operator and programmer with our product! I should note here that the first forays into this new marketplace by cable programmers seem to be working very well. While this body may be getting hundreds of embittered letters each month by those who want a free ride, or a special government welfare rate, there are hundreds of other home earth terminal users who are calling the programmers each day for information on buying the services, as marketed today — at the price being offered. Over 21 thousand purchases have already been made — and that was while other premium program packages were not yet scrambled. The market seems to be doing very well, thank you.

The terrorist's view of how the marketplace should work, however, is somewhat different. It is truly a remarkable theory when you look at it closely. As an example, for instance, imagine, for a moment, that you are a gas station attendant — you work on cars in a dusty little town. And you would love to own — and maybe even sell the Detroit-produced high powered sports cars that you see at the dealership downtown. But you have decided that the price being asked for that car is too much. You've decided that's not fair. The dealer and the manufacturer are just greedy Capitalists. So what do you do — why you descend on Washington! You DEMAND the right to sell those cars just like the dealer downtown. You DEMAND the wholesale rate too! You can assure anyone that as an independent "third party," if you get the right to sell them off the back lot of your gas station you can undercut the price of that fancy dealer with all the embeded costs he has had over the years to promote the car, build the showroom, pay for all the ads to develop the name of the car and so ►

BIG NEWS FOR SMALL SYSTEMS.

Marc Weisberg, Ross Buford

Daniels & Associates has just made a big commitment to thinking small. In fact, our new Small Systems Division has been designed to deal specifically with systems of less than 2,000 subscribers.

We're bringing all our expertise and experience to bear on your unique and changing problems. Take a look at some of the services we can offer:

We'll help you establish the best possible price for your system, and review all the implications of the sale. We'll advise you on timing, and bring you qualified buyers. We'll even prepare a written presentation on your system.

If you're in the market to buy, we can show you properties that fit your plans for corporate growth. Or we can help you secure debt and equity financing to fuel expansion or reduce current expenses.

Your small system means a great deal to us. Let us prove it to you. Give Ross Buford or Marc Weisberg, our two qualified brokers heading the Small Systems Division, a call today.

THE AUTHORITY
DANIELS &ASSOCIATES
2930 E. Third Avenue
Denver, Colorado 80206
303/321-7550

Daniels & Associates is a member of the National Association of Securities Dealers, Inc and all its professional personnel are licensed with the NASD

on. You don't have those costs — so of course you could undercut him if you could get the government to mandate wholesale access to you too! Of course the market structure we live under today would ultimately collapse if government really did that. All you have to do is study any Socialist society to see what happens when the government thinks it knows how to run the marketplace! But that is what is being demanded here today. That is what the cry for "third party" distributors is all about! They are not interested in developing their own product for sale — which, by the way, they could certainly do — there is no monopoly on satellite transponders — all they have to do is pay for it, just like we do — and some already are. Competition is developing, as are new distribution and marketing plans. And that is healthy. But for some, it is not enough. They have decided that the government should step in during the early, formative stages of market development and require that the distribution mechanism favor them.

"The home satellite market came into being in such a sudden burst of misinformation and marketing zeal, that there have been many mistakes on all sides."

I find it absolutely incredible that anyone could suggest that the "market" is not working in this industry. How could anyone know? The first competition in the programming market as it relates to sales and home terminals, only started about fifteen days ago! Are the Congressmen proposing big government solutions to the market "failures" they see, so brilliant that they can tell whether the marketplace is working or not before it even starts? That is truly remarkable. They have certainly taken up the cry of those who seek a special interest — a cheaper rate, a giveaway, or a government fix — but they cannot point to any proof, or even any logic for their claims — just rhetoric.

And I would like to take up one of those rhetorical sore points before we get too much farther. It has been called a "kickback" — a totally incorrect term, by the way, because according to the unabridged dictionary a "kickback" is something done secretly. But the object of that opprobrium is the marketing arrangement between HBO and local cable operators. HBO, when it sells its product directly in the territory of one of its cable agents credits that agent as though the buyer was considered a subscriber to the system. Why? Because the cable industry has spent millions of dollars promoting cable programming services. We have spent years of establishing the name and reputation of these services and we have an absolute right to be paid for the work we have done. By the way, this form

This notice appears as a matter of record only.
June 1986

Sold:

Skyline Cablevision

serving Berthoud, Colorado

Ross Buford
represented the seller.

DANIELS
&ASSOCIATES

2930 E. Third Avenue
Denver, Colorado 80206
303/321-7550

Financial Services to the Cable Communications Industry.

of agent compensation is neither new nor unique. Rebates from the manufacturer have been a common practice in the automobile industry, to name just one, for years.

Have we done some things wrong? I'm sure we have. The home satellite market came into being in such a sudden burst of misinformation and hardware marketing zeal, that there have been many mistakes on all sides. But ultimately those errors will be cleared up by the working of the marketplace — not by a government intervention. Further interference with the normal processes of new market development only threaten to destroy this new market. Cable programmers will use different means of distribution. Homeowners who are not forewarned will be faced with the purchase of earth terminals only to find that they are unuseable, and unprotectable from terrestrial interference which plagues an increasing number of areas of the country due to the increased use of other communications formats.

The present proposals for Government regulation really have little to do with the cost of the total package of equipment necessary to receive satellite transmissions — the lower income rural consumer is not even truly considered! The present bills would simply give a special rate for programming or for the descramblers to those who had the money to buy, on average, a $2000 antenna in the first place!

And finally, of course, we come back to the beginning — the terrorism that plagues this newly emerging communications structure. The satellite feed-horns of cable operators that are being shotgunned at an alarmingly increased rate. The cable lines blasted off the poles, and the threats of further video terrorism in the skies — claims of organized plans for interference with satellite programming. The "taking over" of satellites, and the like.

Make no mistake. This is video terrorism. And it is aimed at all of us. It is designed to achieve government intervention for the benefit of a small cadre convinced that they have an absolute right to the product of others before that product is offered on the open market. CATA asks that you make every effort to withstand the pressures of video terrorism aimed at you. The integrity of satellite communciations as a viable commercial technology is too high a price to pay to satisfy the demands of a small special interest group.□

"Make no mistake. This is video terrorism. *The integrity of satellite communications as a viable commercial technology is too high a price to pay to satisfy the demands of a small special interest group."*

This notice appears as a matter of record only.
June 1986

Sold:

Wilton-Durant Cablevision

Serving the Communities of Wilton and Durant, Iowa

Sale represents 891 basic subscribers.

Ross Buford represented the sellers.

DANIELS &ASSOCIATES

2930 E. Third Avenue
Denver, Colorado 80206
303/321-7550

Financial Services to the Cable Communications Industry.

P·R·O·G·R·A·M·M·I·N·G N·O·T·E·S

SHOWTIME/THE MOVIE CHANNEL'S SATELLITE SIGNALS NOW FULLY ENCRYPTED

In the final step aimed at securing its programming from commercial signal piracy, SHOWTIME/THE MOVIE CHANNEL Inc. has now fully scrambled all satellite transmissions on a 24-hour basis.

The company's two premium networks, SHOWTIME and THE MOVIE CHANNEL, are available to backyard earth station owners on a direct retail basis nationwide and through authorized cable operators in their cable service areas. Retail prices from SHOWTIME/THE MOVIE CHANNEL directly are $10.95 for each service or $16.95 for both when licensed together. Rates may vary when services are ordered through local authorized cable operators.

Subscription information for backyard earth system station owners is available through a toll-free telephone number: 1-800-722-8226.

SHOWTIME/THE MOVIE CHANNEL INC. LAUNCHES PROMOTIONAL AND INFORMATIONAL CHANNEL FOR SATELLITE EQUIPMENT RETAILERS TO USE IN THEIR SHOWROOMS

SHOWTIME/THE MOVIE CHANNEL INC. has commenced transmission of a promotional and informational feed on Satcom 3R, transponder 12 for use by satellite equipment retailers in their showrooms. This announcement was made by Stephan Wm. Schulte, Sr. VP, Direct Broadcast Development, SHOWTIME/THE MOVIE CHANNEL, INC.

The new promo/informational channel will run continuously during the business hours of 8:30 a.m. - 6:30 p.m. EST, and will include promotional highlights for SHOWTIME and THE MOVIE CHANNEL's programming and two-20 minute segments which provide general information on satellite scrambling and on how to connect Videocipher units to satellite systems.

In making the announcement, Mr. Schulte commented, "We are providing equipment retailers with a satellite feed that they can use without legal restrictions to demonstrate the Videocipher II picture quality and at the same time give their customers a promotional glimpse of what SHOWTIME/THE MOVIE CHANNEL has to offer. Consumer awareness of the availability of premium programming is the key to restoring consumer confidence in the HTVO business. Our promotional feed and showroom presence is designed to stimulate interest and help generate more sales."

Mr. Schulte added, "This is only an interim solution to providing equipment retailers with a more comprehensive demonstration technique. We're still hopeful of providing an 'on-off' channel that meets technical and legal requirements. This channel would allow registered equipment dealers to receive, on an intermittent basis, scrambled and unscrambled segments of our satellite feeds in their showrooms, permitting the demonstration of both the technology and our programming to prospective customers."

* * * * *

THE WEATHER CHANNEL GEARS UP FOR 1986 HURRICANE SEASON

As the 1986 hurricane season begins, meteorologists at THE WEATHER CHANNEL will be keeping a watchful eye out for "Andrew" in the Atlantic, Gulf of Mexico and the Caribbean. That's the name designated for the first Atlantic area tropical storm of the 1986 season.

The hurricane season began June and continues until November 30, although the greatest number of hurricanes occur in August, September, and early October. On the average, there are ten tropical storms each year, with six of these storms developing into hurricanes.

In 1985 there were 6 full hurricanes actually hitting the U.S., and estimated total damage is in a record-setting 4 - 5 billion dollar range. Louisiana was hit by three hurricanes, an occurence shared only by Carolina and Florida in the past.

THE WEATHER CHANNEL

enhanced its severe storm coverage in 1985, just in time for Hurricane Gloria, which threatened coastal areas from Florida to New England, finally reaching landfall on Long Island, and leaving millions of dollars in damage in its wake.

A viewer from the New Jersey coastal town of Atlantic Highlands was moved to comment on the channel's coverage: "During the recent hurricane, it seemed that everyone had THE WEATHER CHANNEL going the day before, the whole night, and the early morning before it hit. This time, we were well-organized and prepared, stocking up on food, water and batteries. Those who lived by the ocean went inland, and boats were moved to safe harbors. We've come to rely on you ... It's just better now, knowing what to expect."

John Hope, Hurricane Specialist at THE WEATHER CHANNEL explains, "We are in a unique position to handle this type of reporting because we have expertise in the forecasting of this phenomenon. We also have a close working relationship with the National Hurricane Center, along with a knowledge of its forecasting and tracking procedures. We have immediate access to all the information: satellite data, reconnaissance reports, and the National Weather Service data base. Most importantly, we have a staff of 60 meteorologists concentrating on **current** weather. We look at the big picture ... in fact, we were tracking Hurricane Gloria for two weeks before the storm became a major news event."

THE WEATHER CHANNEL plans to provide even more comprehensive coverage of tropical storms and hurricanes in 1986. The cable network will inform viewers whenever there is possible storm development, tracking it carefully and showing not only where the hurricane is, but also showing its structure. Through a new weather graphics system, Triton, the service will have even clearer colorized satellite photographs-in-motion and radar imagery, along with better map compositing. There will be more video footage of weather actualities, along with the analysis, plus regular weather highlights segments focusing on the top weather stories of each day.

The cable network, lauded for its efforts at the recent National Hurricane Conference, plans to maintain their position. "This coverage is far more extensive than anything on broadcast television," concludes Hope, "and, of course, as everything on THE WEATHER CHANNEL, it is available whenever people want it or need it — 24 hours a day."

* * * * *

WHERE DO THEY GET THOSE NAMES?

Who thinks up all those hurricane names? According to John Hope, Hurricane Specialist at cable television's THE WEATHER CHANNEL, it is The World Meteorological Organization who has the responsibility for developing and approving 21 names for each area during the hurricane season. This organization is composed of members from the National Weather Service and its counterparts throughout the world.

The names reflect a variety of national titles, and as of 1979, included male names as well as female.

Below are the approved names for 1986:

Andrew	Lisa
Bonnie	Mitch
Charley	Nicole
Danielle	Otto
Earl	Paula
Frances	Richard
Georges	Shary
Hermine	Tomas
Ivan	Virginie
Jeanne	Walter
Karl	

And here's some heartening news out of the recent Eighth National Hurricane Conference held in Houston, Florida: Dr. William Gray of Colorado State University, well-known for his chilling accuracy in hurricane prediction, believes it's going to be a "less than average" year.

* * * * *

M/A-COM EXPANDS DBS CONTROL OPERATIONS FOR SHOWTIME/THE MOVIE CHANNEL

M/A-COM's Direct Broadcast by Satellite (DBS) Authorization Center began services to its newest client, Showtime/The Movie Channel. Showtime/The Movie Channel's transmissions will be scrambled 24 hours per day using M/A-COM's VideoCipher® II satellite scrambling system and offered to home TVRO owners. Program delivery will be controlled by authorizing and deauthorizing descramblers based on information generated at M/A- ►

COM's DBS Authorization Center.

The Authorization Center began operation earlier this year for the benefit of DBS television programmers using the VideoCipher II system. Other clients include Home Box Office and Cinemax; these will soon be joined by The Disney Channel, Cable News Network and approximately 20 other premium satellite services.

The major advantage of a common authorization center is that it allows programs from a number of suppliers to be received by the same descrambler, and eliminates the need for a separate descrambler for each service.

A master computer at the Authorization Center translates authorization data received from clients' DBS business system computers into a composite authorization/deauthorization message stream. These messages are then distributed to the satellite uplinks for all participating satellite programmers.

At the uplinks, the control messages are combined with the television programs. Since the different program channels all carry the same authorization information, they can all be received by any authorized descrambler. Consequently, subscribers can switch between independently operated program services without the loss of descramble authorization.

The DBS Authorization Center is contributing to the growth of these services by facilitating efficient control of home descramblers. With 10,000 descramblers already in operation, the Center has the capacity to control over one million descramblers within its current configuration. (M/A-COM's San Diego facility, the DBS Control Center is managed by the former general manager of ON-TV in Los Angeles, Al Clark. "Due to the concentration of technical talent in the design of this Center, we have full back-up equipment to support all systems," Clark said, "and we can assure 24-hour broadcast reliability."

In addition to controlling descrambler authorizations, the Center generates transaction summary and descrambler status reports reflecting each user's DBS activity. Subscriber data is partitioned in the Center's computer so that information about subscribers of one service cannot be accessed by another.

Descrambler control messages are currently transmitted to client uplinks via leased lines, but may switch to Single Channel Per Carrier (SCPC) satellite delivery once a sufficient number of programmers are connected to the Center. M/A-COM operates the DBS Authorization Center on a cost reimbursement basis, with costs allocated equitably among the program distributors using its services.

* * * * *

PROGRAMMING SCHEDULED SCRAMBLING DATE

Viewer's Choice (pay per view)	Since November 1985
Request TV (pay per view)	Since November 1985
Home Box Office (HBO)	Since January 15, 1986
Cinemax	Since January 15, 1986
WOR	Since March 1986
Showtime	Since May 27, 1986
The Movie Channel	Since May 27, 1986
Cable News Network (CNN)	July 1986
Headline News	July 1986
WTBS	September 1986
Tempo	September 1986
WGN	September 1986
SelecTV	October 1986
USA Network	October 1986
The Disney Channel	December 1986
CBN Cable Network	December 1986
ESPN	Precise date not set
WPIX	Precise date not set
KTVT	Precise date not set
VH-1 (Video Hits)	Precise date not set
MTV	Precise date not set
Nickelodeon	Precise date not set
Nashville Network	Precise date not set
Arts & Entertainment	Precise date not set
Black Entertainment TV	Precise date not set
Lifetime	Precise date not set

□

Schedule of Cable Events

July 8-10

Cable '86, National Exhibition Center, Birmingham, England. Contact: 01-441-868-446.

July 10-12

NFLCP 10th Annual Convention, Sheraton Palace Hotel, San Francisco. Contact: Sue Buske, 202-544-7272.

July 15-17

Community Antenna Television Association, MGM Grand Hotel, Reno, NV. Contact: CATA, 703-691-8875.

July 23-25

Eastern Show, Atlanta Market Center, Atlanta. Contact: (404) 252-2454.

September 23-25

Great Lakes Cable Expo, Hyatt Convention Center, Columbus, OH. Contact: 614-461-4014.

October 24-29

Society of Motion Picture & Television Engineers Technical Conference, Jacob Javits Convention Center, New York City. Contact: 914-472-6606.

October 28-30

Atlantic Show, Convention Hall, Atlantic City. Contact: (609) 848-1000.

November 17-19

Television Bureau of Advertising Meeting, Century Plaza, Los Angeles. Contact: 212-661-8440.

December 3-5

Western Show, Convention Center, Anaheim. Contact: California Cable Television Association, 415-428-2225. □

CATA '86
PROGRAM

The following is a complete listing of the panels and their participants as scheduled for CATA '86. The program as listed indicates an information packed agenda, providing material to assist the attendees in system management and operation. This is a program you won't want to miss!! There's still time to register and attend if you've overlooked it; after you peruse this program, you'll see what a worthwhile meeting this is, and there's nothing more enjoyable than a CATA gathering.

Tuesday, July 15

8:45am - 10:30am

PANEL NO. 1:
What Do We Want To Be When We Grow Up - Cable Operators Or Program Producers?

MODERATOR:
Steve Effros, CATA President

PANELISTS:
Peter Barton, TCI
John Karl, Buckeye Cablevision
Mike Pandzik, Executive Director
National Cable Television Cooperative

10:45am - Noon

PANEL NO. 2:
The Image Makers - Public & Government Relations: Cable's Public Image

MODERATOR:
Bob Gastonguay, President
Nevada Cable Television Assn.

PANELISTS:
Richard Holcomb
Sr. Vice President, Public Affairs
ATC
Thomas Hanson
Executive Director
Wisconsin Cable Communications Assn.
John Neal, Director of
Corporate Communications
Daniels & Associates

10:45am - Noon

PANEL NO. 3:
Buying/Selling A System - How To Make Sure You Cover Your Assets

MODERATOR:
Don Perry, President
Don Perry & Associates

PANELISTS:
Clifton Gardiner, President
Clifton Gardiner & Associates
Bruce Dickinson, Vice President
Investment Services
Daniels & Associates
Don Bosson, Vice President
Communications Equity Asso.

1:30pm - 2:45pm

PANEL NO. 4
Customer Relations/Retention & Pricing Policies In A Deregulated Market

MODERATOR:
Victor Parra, President
CTAM

PANELISTS:
Janie Cull, President
Cable Marketing Services Inc.
Richard Sullivan, President
Cable Video Entertainment Inc.
Robert Gross, Vice President
Empire Communications
Bob Schloss, President
Omega Communications
Jim Shumaker
Director of Audience Promotion
Cable Advertising Bureau

1:30pm - 2:45pm

PANEL NO. 5
The HTVRO Business - Is It?

MODERATOR:
Steve Effros, CATA President

PANELISTS:
Robert Maniaci, President
Boman Industries
James Hirshfield, President
Summit Communications Inc.
Steve Schulte
Sr. Vice President/Operations
Showtime/The Movie Channel
Laura Barton
Director of System Development, TCI

3:00pm - 4:15pm

PANEL NO. 6:
The Consumer Connection: VCR Interface And Stereo Sound

MODERATORS:
Wayne Sheldon
Sheldon Electronics Inc.
Steve Effros, CATA President

PANELISTS:
Paul Perez
Director of Marketing
Recoton Corporation
Robert Chalfant
Director of Marketing
Panasonic Industrial Corp.
Lawrence H. North
V.P./Marketing & Sales
W & S Electronics

3:00pm - 4:15pm

PANEL NO. 7:
Negotiating Programming Contracts - It Is A Two-Way Street

MODERATOR:
Robert Gessner, Vice President
Massillon Cable TV

PANELISTS:
Michael Pandzik,
Executive Director
National Cable TV Cooperative
Mark Palchick, Esq.
Kenkel, Barnard & Edmundson
Mark Engler, President
Cable TV Supply

Wednesday, July 16

8:00am - 9:00am

PANEL NO. 8:
Washington Update

MODERATOR:
Steve Effros, CATA President

PANELISTS:
James H. Ewalt
Executive Vice President
CATA
Gary L. Christensen
Cable Advisory Services Inc.
David D. Kinley
Kinley Simpson & Associates

2:00pm - 3:15pm

PANEL NO. 9:
Marketing Pay Per View - Is It A Dream Or Reality?

MODERATOR:
Paul Lenburg, Sr. Vice President
ASI Market Research

PANELISTS:
Richard A. Stone, V.P. of Sales
Request TV
Robert L. Townsend
Vice President,
Sales & Marketing
New York Times Cable
Scott Kurnit
Exec. V.P. & General Manager
Viewers' Choice
Dr. C. P. Currier, President
Total CATV
Cablevision of Baton Rouge

2:00pm - 3:15pm

PANEL NO. 10:
A Practical Approach To Amplifier Alignment

MODERATOR:
Karl Poirier, Vice President
Triple Crown Electronics, Inc.

PANELISTS:
Steve Bullock
C-COR Electronics
Steve Windle
Wavetek Indiana Inc.
Allen Kirby
National Sales Manager
Falcone International Inc.

3:30pm - 5:00pm

PANEL NO. 11:
Addressability - Is It Worth It? - The Financial & Technical Sides of Theft of Service & Pay Per View

MODERATOR:
William Riker
Executive Vice President
SCTE

PANELISTS:
George Green
International Product Manager
Zenith Electronics Corp.
Larry Shultz, President
Telesystems Inc.
Ken Leffingwell
Applications Engineer
Scientific Atlanta
Pete Morse, Jr.
V.P. - Marketing
Jerrold
Mary Lou Wright
Oak Communciations Inc.

3:30pm - 5:00pm

PANEL NO. 12:
New Revenue Sources/New Subscriber Opportunities

MODERATOR:
Robert Gross, Vice President
Empire Communications

PANELISTS:
Allen Kirby
National Sales Manager
Falcone International Inc.
Pat Gushman
Senior V.P., Editorials
X*PRESS Information Services
Molly Karnitz
Asso. Director/Corp. Programs
Muscular Dystrophy Assn.
James Ballard
V.P., Sales & Marketing
CPI Publications Inc.
Gibson Amstutz
National Sales Manager
Telecorp Systems, Inc.

CONSULTANTS CORNER

Wednesday, July 16

9:00am - 10:30am

James H. Ewalt
Executive Vice President
CATA

David D. Kinley
Kinley Simpson & Associates

10:30am - Noon

Steve Effros, CATA President

Michael Pandzik, Exec. Dir.
National Cable TV Cooperative

12:30pm - 2:00pm

Gary L. Christensen
Cable Advisory Services, Inc.

Mark Palchick, Esq.
Kenkel, Barnard & Edmundson□

FCC RECORD KEEPING REQUIREMENTS

Do you know what records and documents the FCC requires you to keep? Do you know how long you must keep them and where? If you're not certain, you're not alone. With all the recent changes in the FCC's rules it's difficult to keep up with each of the record keeping requirements. Fortunately, many requirements, such as subscriber information, have been eliminated, but many still remain.

Following is a checklist with a "plain English" explanation of each of the FCC's record keeping requirements. We divided the requirements into several categories in an attempt to make them less confusing, so be sure to go through the entire checklist. The specific FCC rule sections are included so you can refer to the exact language of each requirement, just in case you want to read how Washington lawyers say it.

Records designated with a star (★) must be maintained in a public inspection file at your local business office. They must be made available for public inspection at any time during regular business hours and for machine reproduction upon request — that is, if you have a copying machine. Complete details about your public inspection files are set out in Section 76.305 of the FCC's rules.

A. All Cable Systems

★ ☐ **Annual EEO report (FCC Form 395-A).** You must keep a copy of each year's report in a public inspection file at your central office *and* at any workplace with more than five full-time employees. The reports must be kept for *five* years. All systems are required to file this report in 1986. Thereafter, only systems with more than five full-time employees must file it. See February 1986 *CATAbrief*, "The FCC and Equal Employment Opportunity," and Section 76.79 of the rules.

☐ **Signal leakage measurements.** Test data from your annual signal leakage measurements must be kept at your local business office for *five* years. If you serve fewer than 1,000 subscribers *and do not* use any frequency spectrum other than that allocated to over-the-air broadcasting, you are exempted from this requirement. See Section 76.601(b) of the rules.

☐ **Performance test results.** The FCC no longer requires operators to conduct performance tests, pursuant to Section 76.605 of the rules, or to retain copies of the test data. However, the requirements may be imposed by local or state law. Moreover, it is a good idea to collect and keep this information because a record of compliance will be helpful in securing renewal of your franchise.

B. Cable Systems Serving 1,000 or More Subscribers

☐ **A current copy of Part 76 of the FCC's rules.** You also are expected to be familiar with these rules. Copies are sold together with Part 78 which contains the CARS rules. They can be ordered from the Superintendent of Documents, Government Printing Office, Washington, DC 20402. You should ask for "CFR, Title 47, Parts 70-79." The cost is $13.00. See Sections 76.301 and 78.67 of the rules.

★ ☐ **Political file.** If your system has a local origination channel, you must keep a record of all requests that are made for cablecasts by or on behalf of candidates for public office. You must also keep a record of your decision and the fees paid, if any, if the request is granted. These records must be maintained for *two* years in your public inspection file. See Section 76.205(d) of the rules.

★ ☐ **Sponsorship file.** If your system has a local origination channel you must announce who paid for, sponsored or furnished any program on the channel. The announcement is waived with respect to "want ads" or classified advertisements sponsored by individuals, but you must keep a list of each one's name, address and (where possible) telephone number. The list must be maintained in your public file for *five* years. See Section 76.221(f) of the rules.

C. Cable Systems Operating in Frequency Bands 108-137 and 225-400 MHz (The Aeronautical Frequencies)

☐ **Leakage log.** Operators must keep a log showing the date and location of each leakage source identified while monitoring the system, the date on which the leakage was repaired, and the probable cause of the leakage. The log must be maintained for *two* years. See Sections 76.614 and 76.609(d) of the rules.

☐ **Grandfathered signals.** All systems carrying signals pursuant to the grandfather provisions of Section 76.618 must maintain a current list of all the signals carried in the aeronautical bands, noting the carrier and subcarrier frequencies, types of modulation, and the maximum peak power which occurs at any location within the cable distribution system. See Section 76.619(c) of the rules.

D. Licensees of a CARS Microwave Station

☐ **A current copy of Part 78 of the FCC's rules.** You are also expected to be familiar with these rules. Copies are sold together with Part 76 which contains the cable television operating rules. They can be ordered from the Superintendent of Documents, Government Printing Office, Washington, DC 20402. You should ask for "CFR, Title 47, Parts 70-79." The cost is $13.00. See Section 78.67 of the rules.

☐ **Station records.** A number of records and reports must be kept about the station and its operation. These are set out in Section 78.69 of the rules. They must be maintained for *two* years.

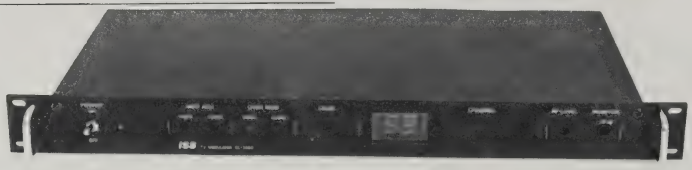
☐ **Cost-sharing and non-profit service.** If the CARS station is operated on a cost-sharing or non-profit basis, you must keep records showing the cost of the service and its non-profit, cost-sharing nature. See Section 78.11(d)(2) of the rules.

IF YOU HAVE ANY QUESTIONS ABOUT THIS LIST, CALL THE CATA OFFICE AT 703/691-8875.

□

Something New

ISS INTRODUCES FREQUENCY AGILE MODULATOR



GL-2610 Hyperband Frequency Agile Modulator

ISS is introducing the GL-2610 hyperband frequency agile modulator for uses that include CATV, DBS, SMATV, MATV applications. Features of the ISS GL-2610 frequency agile modulator include the following. Output frequency selection is made with the simple setting of a switch. Large LED readouts indicate channel cable selection. Output channels include the following: low-band, mid-band, super-band, hyperband — all channels, 2-13, A-W, A-1 thru A-5, and AA thru WW. A saw filter is incorporated for excellent adjacent channel performance and a saw resonator for low phase noise and superior frequency stability. IF modulation with loop thrus for both audio and video are located on the rear of the unit. Audio video level indicators and adjustments are located on the front panel. Compact size only one rack unit high, low power consumption, highly competitive in cost with old style modulators which require plug in modules to select the output channel desired. Only one modulator to stock for 55 different frequencies. "The above features as well as competitive price created substantial interest at the NCTA Trade Show in Las Vegas." says company founder Norman Gillaspie, well known for his previous pioneer work with low cost satellite receivers and founder of Gillaspie Communications in Sunnyvale, California. "I am very excited about the future potential of the smaller cable systems. We at ISS wish to remain a leader in the forefront of what the market demands," noted Mr. Gillaspie. Persons interested in more information can write or call ISS at 1004 Del Norte, Menlo Park, CA 94025, phone (415) 853-0833.

* * * * *

LOCAL PROGRAMMING NEEDED FOR FCST TAPE EXCHANGE

The Foundation for Community Service Cable Television is collecting data on local programming to list in a computerized data bank. The FCSCT's Tape Exchange is the first statewide distribution network for the people and organizations who program California's local cable channels.

An easily accessible source of information about available programming, the Tape Exchange breaks through franchise barriers, geographical boundaries and financial limitations. Partially funded by the Catholic Communications Campaign, Tape Exchange listings and services are free in 1986.

Designed by a statewide advisory group, the computerized referral resource is targeted for cable programming directors, local government cable officers, educators, access managers, independent producers and nonprofit programmers.

According to Advisory Group member Lon Berquist, Access Director, Viacom Mountain View, "The Tape Exchange will serve as a great source of programming for any local channel. The clever access director can use it to enhance local programming efforts."

"From a business standpoint," Advisory Group member C.J. Hirschfield of the California Cable Television Association states, "its exciting to be involved in a model project that will benefit both cable operator and consumer alike. The Tape Exchange will undoubtably increase the high quality programming options of the cable operator and the community he or she serves."

Maureen File, Local Programming Director of Time Mirror Orange County agrees, "The economics of video make it hard to program an entire channel. Until we can develop a consistent means of sharing information about local programming we're stuck at a plateau. The Tape Exchange will provide the expanded outlets for the efforts that go into local programming. We share our energies and resources by sharing our programming."

Cable programmers who have tapes to share or who would like more information should contact the FCSCT, 5010 Geary Blvd., Suite 3, San Francisco, CA 94118, (415) 387-0200.

Foundation For Community Service Cable Television
5010 Geary Blvd., Suite 3, San Francisco, CA 94118

Videotape Exchange

A. TAPE EXCHANGE CONTACT INFORMATION

1. Exchange Contact _____ 2. Title _____
3. Organization _____ 4. Phone ( ) ___- _____
5. Address _____
6. City _____ 7. State _____ 8. Zip _____

B. AVAILABLE PROGRAMMING

9. Program Title _____
10. Series Title _____ 11. # in Series _____
12. Producer _____
13. Production date _____ (mon.) _____ (yr.) 14. Total running time _____
15. Format: (½"Beta) ___ (½"VHS) ___ (¾") ___ (1") ___ Other _____
16. Color _____ 17. Duration of Copyright Clearances _____
18. PROGRAM DESCRIPTION:

19. Intended Audiences(s) _____
20. Special Content Considerations (i.e., strong language) _____
_____
21. Promotional Materials Available _____
22. Other Supplemental Materials _____
23. Originally shown on (Name & location of cable system, or tv station) _____
4.. Special Technical Considerations _____
_____
25. Ch. 3 address track time code (Yes/No) _____ 26. Audio Channel # _____
27. Progam Budget $_____. 28. How funded? _____
29. Cable Facility sponsoring program _____
30. Cable Production facility used _____
31. Other Production facilities used _____
32. Fees: No fee _____ No fee with blank tape _____ Dubbing fee $ _____/copy
Rental $ _____ Purchase $_____ Other conditions of use: _____
_____
33. Do you have stock footage to share? _____
34. Acceptance signature: I hereby certify that my program meets all of the Tape Exchange regulations except as noted on this form.
Signature _____ Date _____

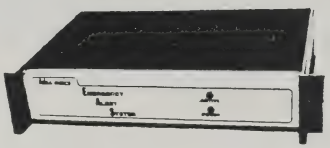
C. PROGRAMMING NEEDS

I am interested in receiving information about the following kinds of programming.
1. Programs for particular audiences (Seniors, women, etc.)
   a. _____ b. _____ c. _____ d. _____
2. Programs on particular topics (safety, childcare, etc.)
   a. _____ b. _____ c. _____ d. _____
3. Programs produced by the following organizations (fire departments, elementary schools, etc.)
   a. _____ b. _____ c. _____ d. _____
4. Other interests — (particular formats, lengths, geographical interests, etc.)
_____
_____

S·h·o·w·c·a·s·e

LOW-COST EMERGENCY SYSTEM by IDEA/ONICS

IDEA/ONICS has introduced a low cost emergency alert system for cable television systems. The EAS covers 54 channels in a standard rack mount unit only 3 1/2 inches high. The unit was designed for any size cable system to provide fast, inexpensive and dependable emergency communications by overriding the headend system. The unit is also designed to fit the needs of hotels, motels, MATV or SMATV systems. The unit can be accessed with any touch tone telephone using an assigned number plus a 3 digit



security code. The unit is designed for ease of installation and to give years of trouble free performance in the very large or very small cable system. The unit is warranted for one full year, sells for under $3000.00 and is available with 14 day delivery.

For more information, contact IDEA/ONICS in Mayville, North Dakota (701) 786-3904. •

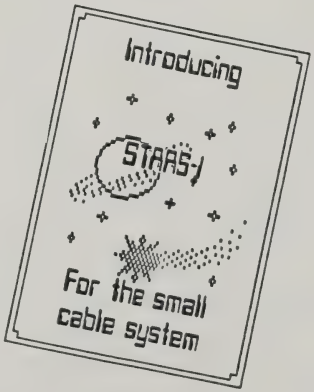
PAPERWORK GOT YOU SNOWED??

STARS-1 is made for the little guy. Whether you have 200 or 10 thousand subscribers, Stars-1 takes care of the paperwork from billing to accounts receivable control, to management reports. You know everything about the business end of your cable system every day.

STARS-1 is a computer software package custom designed for the small cable operator, and priced within the reach of even the smallest systems.

It runs on IBM, Tandy, Compaq, and many other inexpensive MS-Dos computers, and is simple enough to operate that even the inexperienced operator can be using it expertly the first day.

See STARS-1 demonstrated at booth 303 of the CATA cable



convention in Reno, Nevada on July 15-17. Or write us for literature, or demonstration disk.

STARS-1
Distributed by
DURNELL ENGINEERING
EMMETSBURG, IA. 50536 •

NEW SLM CARRYING CASE

Sadelco has designed a lightweight, padded nylon carrying case that provides maximum protection for Sadelco Signal Level Meters.

Sadelco Signal Level Meter Carrying Case

The new case cover is designed to open down, rather than up, with a built-in metal plate that protects all controls. The case is water resistant with one inch foam padding all around, and has a convenient zippered storage pocket in the cover. The outer shell of codura nylon is virtually indestructable and has a carrying handle and a shoulder strap.

The new case is available for use with the Models 719D, 733C Super, FS-3DVS and FS-3DVU.

Sadelco will upgrade existing models with the new protective case and repair and/or calibrate to factory specs for a fraction of the cost of a new Signal Level Meter.

For additional information contact: Sadelco, Inc., 75 West Forest Avenue, Englewood, N. J. 07631, 201-569-3323. •

JENSEN OFFERS FREE CATALOG OF HARD TO FIND TOOLS AND TEST EQUIPMENT

A new 144-page catalog of precision tools and test equipment is offered free by **Jensen Tools Inc.** Illustrated in full color, the catalog contains more than 1,000 items of interest to field engineers and technicians, computer and telecommunications service personnel, and the robotics industry.

The catalog introduces new economical telecom and PC service kits, specialty tools, soldering/desoldering devices, line aids, handsets, logic monitors and other test equipment. Other categories include shipping containers, tool cases, computer/power equipment, lighting, optical and drafting equipment, power tools, measuring devices, and full lines of pliers, screwdrivers, wire wrapping/unwrapping tools, tweezers and more.

For a free copy, write or call: Jensen Tools Inc., 7815 S. 46th Street, Phoenix, AZ 85044. (602) 968-6231. •

GENERAL INSTRUMENT INTRODUCES NEW COMMERCIAL SATELLITE RECEIVER

A new receiver designed specifically for SMATV applications has been introduced by the Jerrold Distribution Systems Division of General Instrument Corporation according to an announcement by Dave Robinson, SMATV Product Manager.

Model S412R advances the state of the art in block downconversion satellite receivers with its high performance and many innovative features. Its microcomputer provides precise, synthesized video and audio tuning. It even compensates for LNB drift by actually counting and compensating for any change in input frequency (950 to 1450 MHz).

It is "C" or "KU" band switchable and compatible with all existing commercial descrambling technologies. The new unit has many other outstanding features such as two tunable audio subcarriers with narrow/wide band selection and built-in matrix or multiplex decoding. The unique front panel "enable" button prevents accidental changes in settings. It is equipped with video inversion, digital channel and audio frequency displays. A polarization control signal is proprovided automatically provided automatically with channel change and can be overridden with a format reverse switch.

It also features an image free 612 MHz second IF, a 27 MHz noise bandwidth, setting retention with power loss, and LED indications for various operating modes.

"This is undoubtedly one of the finest values in a SMATV receiver ever offered in the industry. With its many outstanding features and very popular price, we expect excellent sales on this hot new item" says Robinson.

Model No. S412R
Satellite Receiver

FEATURES

- 950 to 1450 MHz block conversion input
- Threshold extension circuitry without bandwidth compression
- Digitally synthesized video and audio tuning with frequency counting compensation for LNB drift (*digital* AFC)
- "C"/"Ku" band switchable
- Two tuneable audio subcarriers, narrow/wide band selectable with built in matrix or multiplex decoding
- Unique front panel "Enable" button to prevent accidental changes
- Video inversion
- Digital channel and audio frequency displays
- Polarization control signal provided automatically with channel change and format reverse switch
- LED indications for various operating modes
- *Image free* 612 MHz second IF
- Setting retention with power loss

□

A·s·s·o·c·i·a·t·e R·o·s·t·e·r

Note: Associates listed with * are Charter Members.

Jim Ackerman & Associates, Inc.,
1800 N. Meridian St. #410
Indianapolis, IN 46202
317—923-2353
(S9, Brokerage House)

Alpha Technologies
1305 Fraser St. D-G,
Bellingham, WA 98225
206—671-7703
(M9, Standby Power Supplies)

* **Anixter Communications,**
4711 Golf Road,
Skokie, IL 60076
312—677-2600
(D1)

Arts & Entertainment Network
555 Fifth Avenue
New York, NY 10017
212—661-4500
(S9)

The Associated Press
50 Rockfeller Plaza,
New York, NY 10020
212—621-1513
(S9 Automated News SVC)

Automation Techniques,
1550 N. 105th E. Ave.
Tulsa, OK 74116
918—836-2584
(M9)

Blonder-Tongue Labs, Inc.,
1 Jake Brown Rd.,
Old Bridge, NJ 08857
201—697-4000
(M1, 2, 4, 5)

Frank Boyle & Company,
55 Old Field Point Road,
Greenwich, CT 06830
203—869-4433

Budco, Inc.,
4910 East Admiral Place,
Tulsa, OK 74115
1-800—331-2246
(D9, Security & Identification Devices)

Cable Advisory Services, Inc.
6707 Old Dominion Drive,
Suite 350,
McLean, VA 22101
703—734-8690

Cable Constructors, Inc.,
Iron Mountain, MI 49801

Cable Graphic Sciences
7095 N. Clovis Ave.
Clovis, CA 93612
209—297-0508
(M9 Character Generators)

Cable Video Entertainment,
111 8th Ave.,
New York, NY 10011
212—206-1219

Capscan, Inc.
P.O. Box 36,
Adelphia, NJ 07710
1-800—CABLETV or 222-5388
(M1, 3, 4, 5)

CATEL,
4800 Patrick Henry Dr.,
Santa Clara, CA 95054
408—988-7722

CBN Cable Network,
CBN Center
Virginia Beach, VA 23463
804—424-7777
(S9)

* **C-Cor Electronics, Inc.,**
60 Decibel Rd.,
State College, PA 16801
814—238-2461
(M1, 4, 5, S1, 2, 8)

Communication Resources Unlimited, Inc.,
6539 East 31st St., Suite 6,
Tulsa, OK 74145
918—665-8484
(S3)

Communications Equity Associates,
851 Lincoln Center,
5401 W. Kennedy Blvd.,
Tampa, FL 33609
813—877-8844
(S3)

ComSonics, Inc.,
P.O. Box 1106,
Harrisonburg, VA 22801
1-800—336-9681
(M8, 9, S8, 9)

Com-Tek,
28310 Industrial Blvd. #H,
Street/P.O. Box/RFD
Hayward, CA 94545
415—785-4790

CWY Electronics
405 N. Earl Ave.,
Lafayette, IN 74904
1-800—428-7596
(M9, D1)

The Disney Channel
500 S. Buena Vista
Burbank, CA 91521
213—840-5080
(S4)

Ditch Witch,
P.O. Box 66,
Perry, OK 73077
1-800—654-6481
(M9)

The Drop Shop Ltd., Inc.,
Box 284,
Roselle, NJ 07203
1-800—526-4100 or
1-800—227-0700 (West)
(D3, 4, 5, 6, 7, 8, 9, M5, 6, 7, 8, 9 Plastics)

Durnell Engineering Inc.,
Hwy 4 So.
Emmetsburg, IA 50536
712—852-2611
(M9)

Eagle Com-Tronics, Inc.,
4562 Waterhouse Rd.,
Clay, NY 13041
1-800—448-7474
(M9, Pay TV Delivery Systems & Products)

Eastern Microwave, Inc.,
3 Northern Concourse,
P.O. Box 4872,
Syracuse, NY 13221
315—455-5955
(S4)

Electroline TV Equipment, Inc.,
8750-8th Ave.,
St. Michel,
Montreal, Canada
H1Z 2W4
514—725-2471
(M4, 5, 7, 9, D7, 9)

Electron Consulting Associates,
Box 2029,
Grove, OK 74344
918—786-5349
(M2, D1, S1, 8)

ESPN,
ESPN Plaza,
Bristol, CT 06010
203—584-8477
(S9)

Clifton Gardiner & Associates, Inc.,
25107 Genesee Trail Road,
Suite 200,
Golden, CO 80401
303—526-1458

Charles Greene Associates
1117 Perimeter Center West,
Fifth Floor - East,
Atlanta, GA 30338
404—392-3331
(S3, S9, Brokering & Consulting)

Group W Satellite Communications
41 Harbor Plaza Dr.,
P.O. Box 10210,
Stamford, CT 06904
203—965-6219
(S4)

Harmon & Company
5660 S. Syracuse Circle
Greenwood Plaza,
Englewood, CO 80111
303—773-3821
(S3)

Heller-Oak Communications
105 W. Adams St.,
Chicago, IL 60603
1-800—621-2139 * 7600
(S3)

Home Box Office, Inc.,
12750 Merit Dr.
Dallas, TX 75251
214—387-8557
(S4)

Ind. Co. Cable TV, Inc.,
P.O. Box 3799
Hwy. 167 N,
Batesville, AR 72501
501—793-4174
(D1)

* **Jerrold Division General Instrument**
2200 Byberry Road
Hatboro, PA 19040
(215) 674-4800
(M1, 2, 4, 5, 6, Converters)

* **Jerry Conn Associates, Inc.,**
P.O. Box 444,
Chambersburg, PA 17201
1-800—233-7600
1-800—692-7370 (PA)
(D3, 4, 5, 6, 7, 8)

KMP Computer Services, Inc.,
135 Longview Dr.,
Los Alamos, NM 87544
505—662-5545
(S4, 5)

Katek, Inc.,
215 Wood Ave.,
Middlesex, NJ 08846
201—356-8940

Distributors	Manufacturers	Service Firms
D1—Full CATV equipment line	M1—Full CATV equipment line	S1—CATV contracting
D2—CATV antennas	M2—CATV antennas	S2—CATV construction
D3—CATV cable	M3—CATV cable	S3—CATV financing
D4—CATV amplifiers	M4—CATV amplifiers	S4—CATV software
D5—CATV passives	M5—CATV passives	S5—CATV billing services
D6—CATV hardware	M6—CATV hardware	S6—CATV publishing
D7—CATV connectors	M7—CATV connectors	S7—CATV drop installation
D8—CATV test equipment	M8—CATV test equipment	S8—CATV engineering
D9—Other	M9—Other	S9—Other

Larson Electronics, Inc.,
311 S. Locust St.,
Denton, TX 76201
817—387-0002
(M9 Standby Power)

Lifetime
1211 Avenue of the Americas,
4th Floor,
New York, NY 10036
212—719-7230
(S9, Programming)

Lindsay America, Inc.
P.O. Box 15775
1202 B West 19th St.
Panama City, FL 32405
904—769-2321

Long & Aldridge
1900 Rhodes Haverty Bldg.
134 Peachtree St.
Atlanta, GA 30043
404—681-3000
(S9, Law)

LRC Electronics, Inc.,
901 South Ave.,
Horseheads, NY 14845
607—739-3844
(M7)

MA/COM Cable Home Group
P.O. Box 1729
Hickory, NC 28603
1-800—438-3331
(M2, 3, 7, S2)

Magnavox CATV Systems, Inc.
100 Fairgrounds Dr.,
Manlius, NY 13104
315—682-9105
(M2, 3, 7, S2)

Meyer, Capel, Hirschfeld Law Office
306 W. Church St.
P.O. Box 577
Champaign, IL 61820
217—352-7941
(S9, Law)

* **Microwave Filter Co.,**
6743 Kinne St., Box 103,
E. Syracuse, NY 10357
1-800—448-1666
(M9 Bandpass Filter)

OAK Communications, Inc.,
16516 Via Esprillo,
Rancho Bernardo, CA 92127
619—451-1500

Panasonic Industrial, Co.,
One Panasonic Way
Secaucus, NJ 07094
201—392-4109

Power and Telephone Supply Company, Inc.
530 Interchange Drive N.W.,
Atlanta, GA 30336
1-800—241-9996
(D1)

Quality RF Services, Inc.
850 Park Way
Jupiter, FL 33477
305—747-4998
1-800—327-9767
1-800—433-0107 (In Florida)
(M4, S9)

Regency Cable Products,
4 Adler Dr.
East Syracuse, NY 13057
1-800—292-0220

Request Television,
150 E. 58th St.,
39th Floor,
New York, NY 10155
212—223-1043

Riser/Bond Instruments
formerly
Av-Tek, Inc.,
Box 188,
Aurora, NE 68818
402—694-5201
(M8)

RMS Electronics
50 Antin Place
Bronx, NY 10462
1-800—223-8312
1-800—221-8857 (Poleline)
(M4, 5, 6, 7, 9)

Sadelco, Inc.,
75 West Forest Ave.,
Englewood, NJ 07631
201—569-3323
(M8)

Satellite Syndicated Systems, Inc.,
P.O. Box 470684
Tulsa, OK 74147
918—481-0881
(S9)

Scientific Atlanta,
P.O. Box 105600
Atlanta, GA 30348
404—441-4000

Showtime/The Movie Channel, Inc.
1633 Broadway,
New York, NY 10019
212—708-1600
(S4)

Studioline Cable Stereo
11490 Commerce Park Dr.
Reston, VA 22091
703—648-3200
(S9, Audio Program)

Telecorp Systems, Inc.,
5825-A Peachtree Corners E.
Norcross, GA 30092
404—449-6991

Telstar Marketing & Consulting
C.T.H."F" 2930
Blue Mounds, WI 53517
608—437-5460
(S9)

* **Texscan Corp.,**
3102 N. 29th Ave.,
Phoenix, AZ 85017
602—252-5021
(M4, M5, M8, M9)

* **Times Fiber Communications,**
358 Hall Avenue,
Wallingford, CT 06492
1-800—243-6904
(M3)

Tocom, Inc.,
P.O. Box 47066,
Dallas, TX 75247
214—438-7691
(M1, 4, 9 Converters)

* **Toner Cable Equipment, Inc.,**
969 Horsham Rd.,
Horsham, PA 19044
1-800—523-5947
In PA 1-800—523-492-2512
also 1-800—523-5947 (PA)
(D2, 3, 4, 5, 6, 7, 8, S4, 5)

Triple Crown Electronics, Inc.,
4560 Fieldgate Dr.,
Mississauga, Ontario,
Canada L4W 3W6
416—629-1111
Telex 06-960-456
(M4, 8)

Turner Broadcasting System,
1050 Techwood Dr.,
Atlanta, GA 30318
404—898-8500

TV Watch, Inc.,
1819 Peachtree Rd. N.E.
Atlanta, GA 30309
1-800—554-1155
(S9)

United Press International
220 East 42nd St.,
New York, NY 10017
212—682-0400
(S9 Automated News SVC)

United Video, Inc.,
3801 South Sheridan Rd.,
Tulsa, OK 74145
1-800—331-4806
(S9)

USA Network
303 East Ohio Street
Time & Life Bldg. Suite 2701
Chicago, IL 60611
312—644-5413
(S9)

Viewstar, Inc.,
705 Progress Ave.,
Unit 53,
Scarborough, Ontario,
Canada M1H 2X1
416—439-3170
(M9 Cable Converter)

Vitek Electronics
710 Narragansett Park Dr.
Pawtucket, RI 02861
401—724-4400

Walsh, Walsh, Sweeney & Whitney, S.C.
P.O. Box 1269,
Madison, WI 53701
608—257-1491
(S9)

* **Wavetek Indiana**
5808 Churchman,
Beech Grove, IN 46107
1-800—428-4424
TWIX 810—341-3226
(M8)

Weatherscan,
Loop 132,
Throckmorton Hwy.,
Olney, TX 76374
817—564-5688
(D9, Sony Equip. Dist., M9 Weather Channel Displays)

Western Towers
Box 2040
San Angelo, TX 76902
915—658-6539/653-5291
(M2, 9 Towers)

Zenith Radio Corp.,
1000 N. Milwaukee Ave.
Glenview, IL 60025
312—391-8195
(M1, 6)

□

C·l·a·s·s·i·f·i·e·d

Have a Safe and Happy Holiday!

FOR SALE

TEMPO CABLE, Inc. has the following inventory for sale:

* used Eagle Notch Filters -
234 NF D at $1.50 each
138 NF F at $1.50 each
153 NF H at $1.50 each

* Brand new JSM-3 (quantity of 550) for $13.00 each and used JSM-4 (quantity of 500) for $9.00 each. These converters have never been removed from carton since purchase and all are in working order. We will sell all the JSM's for a special price of $11.00 each.

Standard Components -

* C-AG-713 7-channel block with inverted carriers, w/o parental control (quantity of 191) with parental control (quantity of 22). All are in working order and available for $1.50 each.

* DCN 3-B0101 3-channel block with inverted carriers, (quantity of 28) at $1.00 each. Used but in working order.

We will sell the total amount of Standard Components for a special price of $1.25 each.

For more details on these terrific buys, call Frank Kremer today at TEMPO Cable, Inc. (918) 967-3381.

Because it's worth it! *order these technical helps today.*

WALL CHARTS ☐$10.00 ea. ☐$35.00 SET OF 4

QUANTITY

_____ FM VIDEO TRANSMISSION
_____ HEADEND / INTERFERENCE
_____ FCC TESTS
_____ CB INTERFERENCE CHART

☐ SIGNAL LEAKAGE LOG

☐ 5 Pads For $10.00 _____ Sets

Detection and Correction

Date · Location · How Corrected · Probable Cause · Remarks

☐ GRAPHIC SYMBOLS GUIDE

Nat'l Standards For CATV Systems

_____$5.00 ea. _____ $40.00 for 10 _____ $90.00 for 25 guides

☐ CUSTOMER RELATION BOOKLET

_____$5.00 ea. _____ 3 for $10.00

☐ WTFDA STATION GUIDE

63-page book covers TV stations in U.S., Canada & Mexico

_____$10.00 ea.

☐ INDEX VOLUME

_____ Index Volume with 1980 & 1981 Supplement $150.00
_____ Index Volume with 1980 Supplement $120.00
_____ Index Volume $30.00
_____ 1982 Supplement $30.00
_____ 1981 Supplement $30.00
_____ 1980 Supplement $30.00

☐ SUBSCRIPTION TO CATJ

_____ Enclosed for 1 year $22.00
_____ Enclosed for 3 years $60.00

Name _____

Company _____

Address _____

City _____ State _____

Zip _____ Total _____

Mail to: CATJ • P.O. BOX 75430 • OKLAHOMA CITY, OK 73147

CATA '86

A · N · N · U · A · L
C · O · N · V · E · N · T · I · O · N

JULY 15-17

MGM GRAND HOTEL • RENO

NEVADA

Remember when 20, 12-even 5 channels were your maximum potential? Now...

Rebuilding? Save Money With JERROLD

Remember, back in 1951, when TV stations were low in power and antennas not very efficient? Milton Jerrold Shapp, the founder of Jerrold, didn't realize he was helping to create a new industry when he developed an amplifier that Bob Tarlton needed for his Lansford, PA community antenna system.

Cable was new, but it grew rapidly. And Jerrold grew with it, developing improved amplifiers, channel equipment, and numerous innovations that increased revenue potentials for operators, and established Jerrold as the leading supplier in the industry.

Expand the bandwidth of your system – and your revenue-producing channel potential – simply by dropping in Jerrold STARLINE® SJ-330 modules. This quick and easy upgrade to 330 MHz can help you maximize your revenues and requires:

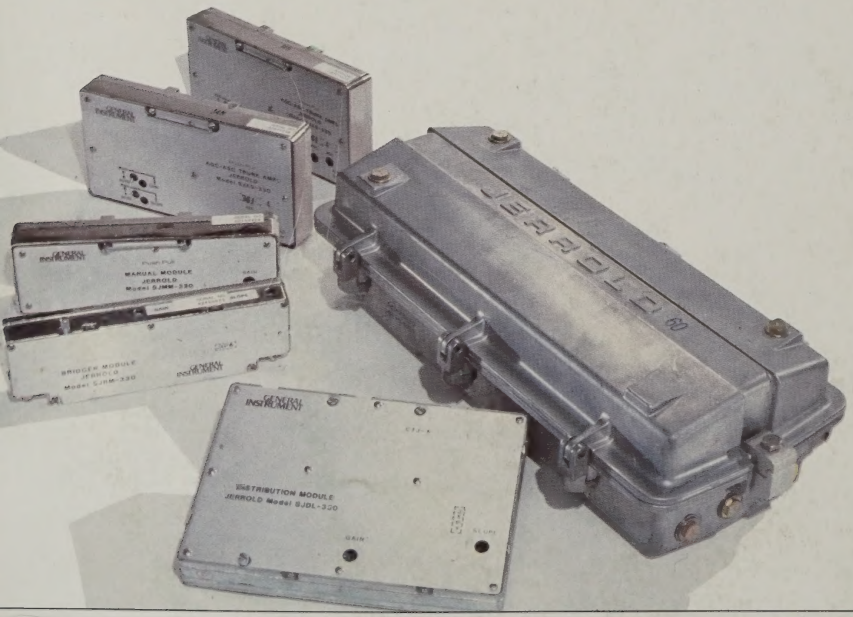
- No respacing of trunk amplifiers
- No major equipment costs
- No prolonged construction

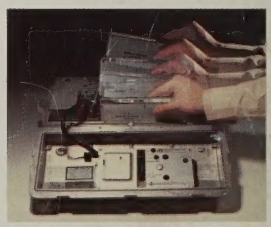
Regardless of the make or vintage amplifiers now in your system, Jerrold can show you how to rebuild economically. If you have STARLINE 20 equipment, you'll realize the biggest savings with Jerrold STARLINE SJ-330 drop-ins. Other amplifiers can be replaced easily and economically by a complete STARLINE SJ-330 station. Detailed information on what you will need and what savings you can achieve is contained in a new Jerrold STARLINE 20 SJ Series brochure – yours for the asking.

And Jerrold has other possibilities for you too. For longer cascades and greater channel capacity, there's Jerrold STARLINE X feedforward and power doubling amplifiers. Whatever your specific needs, there's a reliable, low-cost Jerrold product to satisfy them.

Send for the Jerrold STARLINE 20 SJ Series brochure, today. Call or write: Jerrold Division, General Instrument Corporation, 2200 Byberry Road, Hatboro, PA 19040. (215) 674-4800.

JERROLD
You know we'll be there.





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